



JOHN CHRISTIAN HERR

Curriculum Vitae

Current Status: Professor of Cell Biology
Professor of Urology
Other Titles: Director of the Lymphocyte Culture Center
Director of the Center for Research in Contraceptive and Reproductive Health
Dean of School of Medicine's Special Assistant for Development

Address

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Personal Data

Birthdate: June 29, 1948
Birthplace: Dubuque, Iowa
Citizenship: U.S.; Ethnic Origin: Caucasian [Northern European]
U.S. Social Security Number: 480-56-3234
U.S. Passport #: 012851562 [expires August 8, 2006]
Marital Status: Married to Mary Jo Herriman, two children:
Christian Craig Herr (b. 6/23/83); Austin King Herr (b. 9/18/88)

Education

Summer Program:	1968	Hopkins Marine Station, Stanford University [Phycology (algae, plankton)]
B.A.	1970	Grinnell College, Grinnell, Iowa [General Biology, Education]
Ph.D.	1978	University of Iowa, Anatomy & Cell Biology [Advisor: P.M. Heidger]
Postdoctoral	1978-81	University of Washington, Seattle [Advisor: E.M. Eddy; reproductive immunology]

Academic Experience

1. 1974-1978 National Institutes of Health Trainee in Anatomy, University of Iowa, Dept. Anatomy.
2. 1978-1979 Fellow: NICHHD Interdisciplinary Training Program in Developmental Biology, University of Washington
3. 1979-1981 NIH National Research Service Award Postdoctoral Fellowship, University of Washington, Department of Biological Structure. "Sperm Surface Antigens"
4. 1981-1987 Assistant Professor, Department of Anatomy & Cell Biology, University of Virginia, Charlottesville, Virginia.
5. 1982-present Director, University of Virginia Lymphocyte Culture Center.
6. 1987 -1992 Associate Professor Anatomy & Cell Biology, University of Virginia.
7. 1990-1996 Director, Biotechnology Training Program.
8. 1991-present Director, NIH Center for Research in Contraceptive and Reproductive Health [formerly Center for Recombinant Gamete Contraceptive Vaccinogens].
9. 1992-present Professor of Cell Biology, University of Virginia.
10. 1999-present Dean's Special Assistant for Development
11. 2003-present Professor of Urology

Professional Affiliations

Sigma Xi

American Association of Anatomists

American Society for Cell Biology

American Society for Reproductive Immunology

American Society of Andrology

Society for the Study of Reproduction

International Society for the Immunology of Reproduction

Areas of Current Interest

Cell biology of gametogenesis: specifically: differential gene expression during spermatogenesis and oogenesis. Reproductive immunology: postvasectomy autoimmunity. Applied research: contraceptive vaccine development; identification of contraceptive drug targets; infertility diagnostics; male contraception; spermicides; cancer and forensic biomarkers.

Service to Societies

- | | |
|-----------|---|
| 2004-pres | Awards Committee, Am. Soc. Reprod. Immunology |
| 2003-pres | Public Affairs Committee, American Society Andrology |
| 2003 | Program Committee, American Society of Andrology, 2005 Annual Meeting |
| 2002 | Program Committee, American Society Andrology, 2004 Annual Meeting |
| 2001 | Organizing Committee, Testis Workshop, Phoenix, AZ |
| 2001 | Councilor - American Society for Reproductive Immunology |
| 1998-00 | Councilor - International Society for Immunology of Reproduction |

1998	Abstract Review Committee, Society for the Study of Reproduction
1996-97	Host, First International Conference on Experimental and Clinical Reproductive Immunobiology, October, 1997, Charlottesville, VA
1995-96	Organizing Committee, 1996 Meeting of American Society of Reproductive Immunology
1994-95	Organizing Committee, Sixth International Congress of Reproductive Immunology
1993	Organizing Committee, Serona Symposium, Immunology of Reproduction, August 26-29, 1993, Boston, MA
1993	Abstract Review Committee, Society for the Study of Reproduction
1993-94	President, American Society for Reproductive Immunology
1991	Abstract Review Committee, American Society of Andrology
1991	Organizer of the 11th Annual Meeting of the Am. Society for Immunology of Reproduction, Charlottesville, VA
1989-94	Councillor- American Society for Immunology of Reproduction
1988-91	Educational Affairs Committee - American Association of Anatomists
1987	Centennial Fund Raising Committee, American Association of Anatomists
1985-88	Committee member, Planning Committee for 1987 Centennial Meeting, American Association of Anatomists
1985	Committee member, Criteria for Admissions to AAA Directory
1985-86	Committee member, Nominations Committee, American Association of Anatomists
1984	Committee member, Committee to Improve the Annual Meeting, American Association of Anatomists
1983-86	Chairman, Advisory Committee of Young Anatomists, American Association of Anatomists

Awards

1995	Munksgaard Senior Investigator Award, American Society for Reproductive Immunology, Washington, D.C., July 22, 1995
1999	Christopher J. Henderson Inventor of the Year Award, University of Virginia Patent Foundation, April 26, 1999
2000	Virginia's Outstanding Scientist 2000 Award, March 27, 2000
2001	The Burroughs Wellcome Visiting Professorship in Reproductive Biology, University of Guelph, Ontario, Canada. Jan 29-Feb 2, 2001
2002	The Distinguished Alumnus Award for Achievement-University of Iowa, May 30, 2002
2004	The Raymond O. Berry Memorial Lectureship – Texas A&M University, April 2, 2004
2004	The Small Business Innovation Research Commercialization Breakthrough Award, Virginia Center for Innovative Technology, October 13, 2004 Arlington, VA

Editorial Boards

1986-1998	Anatomical Record
1988-2000	Journal of Reproductive Immunology
1991-1994, 1997-1998	American J. of Reproductive Immunology
2000-2004	Biology of Reproduction

Reviewer for Journals

PNAS
International J. of Cancer
International J. of Andrology
Journal of Cell Science
Journal of Cell Biology
Nature Biotechnology
Life Sciences
Journal of Histochemistry and Cytochemistry
Journal of Andrology
Reproduction, Fertility, Development
Biology of Reproduction
American Journal of Anatomy
Journal of Investigative Urology
Developmental Biology
Journal of Reproduction and Fertility
Journal of Urology
Biochemical Pharmacology
Molecular Human Reproduction
Journal of Immunology
Fertility and Sterility
Protein Expression and Purification
Journal of Clinical Investigation
Experimental Cell Research

Study Sections

- 2004 Review Intramural Program: Laboratory of Biosystems and Cancer, National Cancer Institute, September 19-21, 2004
- 2004, Special Emphasis Panel “NRSA Applications”, March 10 and 11, 2004
- 2004, NIH Minority Biomedical Research Support Panel ad hoc reviewer, Feb. 10, 2004
- 2003, NIH Conference Panel: “Strategic Planning Meeting for the Fogarty International Center Programs” Dec. 12, 2003
- 2003, Chairman NIH Special Emphasis Panel: Synthesis and Testing of Nonsteroidal and Nonhormonal Male Contraceptive Agents, Sept. 17, 2003
- 2002, NIH Special Emphasis Panel, JWG, May 2002.
- 2002, NIH Special Emphasis Panel, NRSA Applications, March 5, 2002.
- 2002, NIH Special Emphasis Panel, JWG, May 2002.
- 2002, NIH Special Emphasis Panel, NRSA Applications, March 5, 2002.
- 2001, NIH Special Emphasis Panel, P30 Center, Washington State, July 24.
- 2001, NIH Special Emphasis Panel, February 19, Support Contracts for Contraceptive and Reproductive Health Branch [CRHB]
- 2000, NIH Special Emphasis Panel, June 27-28, P30 Center Washington State
- 2000, External Reviewer, Jeffress Memorial Trust
- 1999, Ad hoc Reviewer, SBIR Study Section, US Dept. Agriculture.
- 1999, External Reviewer for Royal Society of Great Britain.
- 1998 Member, National Institute of Allergy and Infectious Diseases Task Force on Immunology.
- NIH Special Emphasis Panel Behavioral Medicine Study Section, Dec 11, 1998

External Reviewer for NIH Intramural Programs, Fall 1998
External Reviewer for Wellcome Trust, 1994, 1995, 1997, 1999, 2000
External Reviewer for Israel Science Foundation, 1997, 1998
External Reviewer for WHO Program in Reproductive Research and Training, 1995
Member, National Cancer Institute Special Study Section "Scalable GMP Production", April 22, 1994;
October 4, 1994
Member, NIH-NICHD Special Study Section - P50 Center, Aug. 23-25, 1993
Member, NIH-NIGMS Biotechnology Training Programs Study Section and 2 Site Visit Teams, Fall
1993
Member, Immunocontraceptive Working Group, U.S.A.I.D., 1992-1993
Chairman, NIH Special Study Section, "Development of a Contraceptive Vaccine, October 9, 1992
Member, Molecular Immunology and Vaccine Development Panel of the National Task Force on the
NIH Strategic Plan, June 23-25, 1992
Member, Expert Panel on Wildlife Damage and Population Regulation, U.S. Dept. Agriculture, April,
1992
Member, Immunocontraceptive Working Group, Contraceptive Research and Development Program,
USAID, September, 1991
Member, NIH-NICHD Special Study Section-Program Project, "A Coordinated Program in
Reproductive Biology," May, 1991
Member, United States Agency for International Development Contraceptive Research and
Development Program Working Group, May, 1990
Member, NIH-NICHD Population Research Committee, Aug. 1990
Member, NIH - NIDDK Study Section, Program Project: "Experimental Models of Gene Therapy,"
December 11-13, 1989
Member, NIH - NIDDK Special Study Section, Small Business Innovative Research, Fall 1988
Member, NIH - NICHD Special Study Section - Population Research Center, April 6-9, 1988
Ad hoc reviewer, NSF Developmental Biology Study Section

International Service

2004- Program Committee, "Advances and Challenges in Reproductive Health in the Post
Genomic Era" held Jan 9-12, 2005, Mumbai, India.

In 1990, Dr. Herr received a grant from USAID to organize a course, "Molecular Biology of
Human Spermatogenesis" which was taught in March of 1990 at the National Institute of Immunology
in New Delhi, India. This 16 day course covered methods of cloning genes from the human testis and
was attended by students, postdoctoral fellows and faculty members from universities throughout India.
A fully functional rDNA laboratory was transported to New Delhi and was donated to the Indian
government at the conclusion of the course. Dr. and Mrs. Richard Wright assisted in this effort.

In 1992, a grant from the NIH supported a workshop at the Institute for Chemical Biology in
Calcutta, India. Dr. Herr's lab organized a two-week course, including Dr. Herr, Ken Klotz, and Alex
Freemerman, also from Dr. Herr's laboratory. The course covered basic methods of molecular biology
including RNA isolation and cDNA library construction. Laboratory equipment for molecular biology
training was assembled in Virginia for the course and donated to the Institute at the conclusion of the
course.

In 1995, Dr. Herr served as a visiting professor in Cairo, Egypt where he lectured at Ain Shaims University, Al-Azhar University, and Cairo University and visited the Marine Biology Station at Suez. The topics of his lectures and discussions were the trends and opportunities in contraceptive vaccine research and development.

In 1998, Dr. Herr organized a team to teach a laboratory in the Frontiers in Reproduction Course at Woods Hole, Mass. The course was attended by 16 international scholars in 1998 and was again taught in 1999.

In 2000, Dr. Herr was appointed as a member of the Indo-US Joint Working Group comprised of members from the NIH, State Department, USAID and U.S. scientists as well as Indian counterparts in government and academics. This group fosters collaborative scientific efforts between the two countries and reviews bilateral grant applications.

Boards of Directors of Corporations and Foundations

1983-1987	Humagen, Inc
1992-Present	ContraVac, Inc
1998-2008	University of Virginia Patents Foundation
2005	Translational Research Partnership with the Wallace H. Coulter Foundation

University Committees Served

2004 [Fall]	Chair Review Committee, Department of Obstetrics/Gynecology
2004-2005	CRCRH Faculty Search Committee, [Chairman]
2004	Department of Urology Faculty Search Committee
2004-2005	School of Medicine Search Committee for Associate Dean for Clinical Research
2002-2003	School of Medicine Resources Committee
2002-2004	UVA Technology Commercialization Working Group (Provost's Office)-Leadership sub-committee; Infrastructure sub-committee
2002-	Chairman, Henderson Inventor of the Year Committee
2001-present	Faculty Development Council
2000-2001	Search Committee, Development Office, UVA Health System, Director of Development for Immunology Research
2000-2001	Search Committee, Dept. Cell Biology, Faculty Replacement
1999-present	Medical Advisory Council to Dean School of Medicine
1999-present	UVA Research Parks Communications Council
1999-present	Health Sciences Corporate and Foundation Relations Advisory Council
1999-2001	Science and Technology 2020 Planning Commission
1998-present	Chairman, Histology Research Core Advisory Committee
1998-present	Library Capital Campaign Committee
1998-present	Chairman, Faculty Advisory Committee-Univ. of Virginia Patent Foundation
1997-1998	LCME Accreditation Task Force
1996-1998	Dean's Task Force on US News Survey of Medical Schools
1991-2001	Faculty Task Force on the School of Medicine Capital Campaign
1994-1998	Faculty Task Force for Biomedical Research
1994-1995	Institutional Research Policy Advisory Committee

1994-1997	Search Committee for University/Industry Research Coordinator, Office of Vice Provost for Research
1994-1995	Chairman, Faculty Forum for Scientific Research
1992-2001	Executive Committee Molecular Medicine Training Program
1993-1995	Member, Faculty Forum for Scientific Research
1991-1992	Committee for P-30 Grant for Reproductive Center Cores
1991-1997	Selection Committee for the University of Virginia Inventor of the Year Award [Dr. Richard Edlich, chair]
1991-1996	Graduate Advisors Committee
1990-1996	Executive Committee, Program Director, Biotechnology Training Program
1982-present	Committee for Lymphocyte Culture Core
1983-1988	Committee for FACS
1982-1983	Committee for Reproductive Biology Program Project (Gene Oliphant, Chairman)
1982	Committee for Organizing MAC Grant
1983-1986	Preclinical Committee (J. David Deck, Chairman)
1984-1988	Cancer Center Organizing Committee Program Project for Cancer Research Unit (R. Wagner - T. Parsons)
1987-1988	Committee for Reproductive Biology Training Grant
1987-1993	Search Committee, Department of Anatomy and Cell Biology
1985-1990	Gynecologic Cancer Committee
1989	Jefferson Award Committee (Department of Continuing Education)

Community Service

1999-pres	Biotechnology Curriculum Advisory Committee of Piedmont Virginia Community College
2000-2001	Founding member and Mate, Ship 19, Sea Scouts, Boy Scouts of America

In Training Teaching Activities

1975	Gross Anatomy for Medical Students, University of Iowa
1976	Principles of Human Anatomy for Nurses, University of Iowa
1976	Neuroanatomy, University of Iowa
1978	Histology for Medical Students, Univ. of Washington
1979	Musculoskeletal System, University of Washington
1979	Gross Anatomy for Dental Students, University of Washington

Overview of Teaching Activities at UVA

1981-82	Gross Anatomy for medical students; Course director: Anat. 506 Experimental Morphology
1982-83	Anat. 805 Special Topics in Dev. Anatomy Gross Anatomy for medical students; Course director: Anat. 506; Experimental Morphology, Biol 495, Anat 999.
1983-84	Gross Anatomy for medical students; Course director: Anat. 506 Experimental Morphology, Anat. 999

1984-85	Gross Anatomy for medical students; Director, Anat. 605 Experimental Methods; Anat. 595; Anat. 599; participant, Anat. 802 (Reprod. Biology), Anat. 999, Biol 495
1985-86	Gross Anatomy for medical students; Course Director, Anat. 805 Topics in Developmental Biology, participant in Anatomy 605, Anat. 999
1986-87	Gross Anatomy for medical students; participant in Anatomy 605, Anat. 999
1987-88	Gross Anatomy for medical students; Experimental Methods (Anat. 605); Advances in Reproductive Biology (Anat. 802), Anat. 999, Biol 495
1988-89	Gross Anatomy for medical students, Experimental Methods, Anat. 999
1989-90	Gross Anatomy for medical students, Experimental Methods, Anat. 999
1990-91	Gross Anatomy for medical students, Experimental Methods, Anat. 999
1991-92	Gross Anatomy for medical students, Experimental Methods, Anat. 999
1992-93	Gross Anatomy for medical students, Experimental Methods, Anat. 999
1993-94	Gross Anatomy for medical students, Experimental Methods, Anat. 999
1994	Anatomy 805 Advances in Reproductive Biology
1994	Research Ethics GSAS 710
1995-98	Gross Anatomy for medical students
1998	Colloquium in Reproductive Biology-Gene Regulation of Spermatogenesis
2002	Gross Anatomy for medical students
2003	Gross Anatomy for medical students
2004	Gross Anatomy for medical students

Graduate Students Supervised and Supported (Thesis Advisor)

<u>Years</u>	<u>Student</u>	<u>Positions following Ph.D.</u>
1982-1987	Lisa Kisalus	Post-doctoral fellow: Harvard Medical School, Associate Director, Symposia, Serono, Inc.
1983-1987	Rob McGee	Post-doctoral fellow: NIEHS, Research Triangle, N.C. 1987-89. MD: Bowman-Grey 1990-1994. Residency - Pathology.
1985-1987	Nagi Fares	Agency for Int. Dev. Peace Fellow from Egypt; conducted his thesis work with Dr. Herr. Currently Professor of Biology, Department of Biology, Faculty of Science, Ain Shams Univ., Cairo, Egypt.
1985-1989	Hal Handley	Post-doctoral fellow: Scripps Inst., La Jolla, CA. Currently Senior Scientist in biotechnology company-Maxim, Inc.
1987-1992	James Foster	Post-doctoral fellow: Univ. Pennsylvania, Dept. Ob-Gyn. Instructor, Haverford College. Currently Assistant Professor, Dept Biology, Randolph-Macon College, Ashland, VA.

1987-1991	Ming Chen Shen	Marriage and children.
1990-1992	Kelly Beecher	M.S. [1992], Research Assistant, Dept. Neuroscience, Univ. Kansas
1990-1994	Alex Freemerman	Postdoctoral fellow, cancer biology, Medical College of Virginia. Research Associate, Univ. Arizona. Currently Research Assistant Professor, Duke University, Dept. Surgery.
Began 1991	Cecelia Videus	Ph.D, Aug 1998: Winner Young Investigator Award; Am. Soc. Reprod. Immunol, 1996; entered Darden Business School Fall 1998. Summer internship 1999 at Pfizer. MBA, 2000. Currently investment banker specializing in biotechnology.
Began 1994	Lisa Norton	Ph.D, Aug 2000. Received 1998 Langman Award from Am. Soc. Anatomists for best grad student paper presented at FASEB meeting. Received 1999 Michael J. Peach Award for Outstanding Graduate Student, University of Virginia. Application Scientist, Combi Matrix, Seattle, WA.
Began 1999	Theresa Thompkins	Received 5 year NIH Predoctoral Fellowship for Minority Students for her MD/PHD. In the Summer of 2000 she received a National Merit Award.

Postdoctoral Fellows

7/1/83-6/30/84	Mark Sigman, M.D., Currently Professor of Urology, Brown Univ.
7/1/84-6/30/85	Bob Evans, M.D., Urology Resident - Dr. Evans' work with Dr. Herr was presented at the Mid Atlantic Urology Meetings on October 3, 1985 in Philadelphia where Dr. Evans won 1st place for the best research paper presented by a Urology Fellow. He later went on to win second place at the National Urology Meetings in 1986. Dr. Evans' paper also won the Annual Medical Society of Virginia House Officer Prize for 1986. Dr. Evans is currently in private practice.
5/1/85-8/31/86	Nana Hussein Riad, Ph.D.- Professor and Chairman of Biology, Ains Shams University, Cairo, Egypt. Received Fullbright Scholarship to work with Dr Herr. Dr. Riad came to learn immunocytochemical procedures at light and EM levels. Dr. Riad returned in 1998 to UVA with a second Fullbright scholarship to learn molecular biology techniques.

5/1/86-7/31/86	Madhu Joshi, Ph.D. - Busch Scholar on Sabbatical, Professor of Anatomy, University of North Dakota, Fargo, N.D. Dr. Joshi came to Dr. Herr's lab to learn hybridoma techniques.
9/1/88-12/31/94	Mona Homyk, Ph.D. - subsequently worked for Humagen Fertility Diagnostics, Toxicology Regulatory Services, and currently, Pharmaceutical Research Associates.
7/1/88-93	Richard Wright, Ph.D. completed a DVM in 1998 at Virginia Tech and is practicing veterinary medicine in private practice.
3/1/89-6/30/03	Barbara Kurth, Ph.D., Senior Scientist, Associate Director Primate Models Core, Center for Research in Contraceptive and Reproductive Health.
7/1/90-6/31/91	David Mburu, DVM, WHO sponsored fellowship in molecular biology - postdoc in Australia.
7/1/90-8/31/91	Anil Suri, Ph.D., U.S.A.I.D. sponsored fellowship in spermato- genesis. Current position, Associate Professor, Natl. Institute Immunology, New Delhi, India. Dr. Suri has received USAID funding to return to Dr. Herr's lab for joint research in subsequent years. Dr. Herr currently supports a joint research project through his Mellon twinning grant. In 1999 Dr. Herr and Dr. Suri received a grant from the Indo-US Program. Dr. Suri returns to the Herr lab for a 2 month sabbatical each year.
9/1/90-8/31/91	Linsong Li, M.D., Postdoctoral Fellowship-University of Washington Department of Medicine.
10/5/92-6/31/95	Prabhakara Reddi. In 1992, Dr. Reddi was awarded a two-year Rockefeller Fellowship to work with Dr. Herr. He currently serves as Associate Director of the Bioprocess Core in Dr. Herr's Center and holds an appointment as Research Assistant Professor in the Department of Cell Biology. His NIH R29 grant received a 7.6% score and was funded in 1999 for 5 years. Dr. Herr also applied for and received a Mellon Foundation Junior Investigator Award for Dr. Reddi. In 2004 Dr. Reddi received an independent NIH R01 and a tenure track Assistant Professorship in the Department of Pathology at UVA.
10/5/92-1994	Dimpy Koul - U.S.A.I.D. CD&RI Fellow. Fogarty Fellow. Currently, post-doc at Baylor.
2/11/93-12/12/98	Soren Naaby-Hansen, M.D. Dr. Naaby-Hansen is an obstetrician who worked as a Mellon Foundation Fellow. He began an Asst. Professorship at the Ludwig Cancer Institute in London on January 1, 1999, where he continues collaboration with the Herr lab.
5/11/93-7/1/94	Zhang Jian, WHO Fellow. Returned to China to his previous Senior Scientist position.

6/15/93-6/30/03	Michael Wolkowicz, Ph.D - Mellon Foundation Fellowship. Instructor in Cell Biology. Head, Molecular Biology Group, Center for Research in Contraceptive and Reproductive Health.
9/15/93-2/28/97	Milena Mihailova, Ph.D - NIH Fellow. Not currently employed due to illness. Returned to Bulgaria, her home country.
6/1/94-4/17/02	Alan Diekman, Ph.D - NRSA Awardee, subsequently received NIH SBIR grant, Became Res. Assistant Professor of Cell Biology. NIH R01 received 0.9% percentile and 5 years of funding beginning on August 1, 1998. Currently, Assistant Professor of Biochemistry and Molecular Biology, Univ. of Arkansas Medical School, May 1, 2002.
7/1/94-6/30/02	Anne Westbrook-Case, Ph.D - NIH Traineeship, Mellon Fellowship, Berlex Fellow. Research Associate, Center for Research in Contraceptive and Reproductive Health. Currently: Senior Informative Scientist, National Library of Medicine, NCBI, NIH June 17, 2002.
1/28/95-4/1/03	Scott Coonrod, Ph.D - NIH Postdoctoral Fellowship. Dr. Coonrod held a Research Assistant Professor position in Cell Biology at the University of Virginia from 2001-2003. He received a 10% score on a NIH R01 grant which was funded December 1, 1999 for 5 years. On April 1, 2003 Dr. Coonrod began as an Assistant Professor of Genetic Medicine, Cornell Weill Medical School, NY., NY.
4/23/95-5/1/96	Vrinda Khole, Ph.D - WHO Fellowship - Dr. Khole and Dr. Herr subsequently collaborated under a WHO grant to Dr. Khole. Dr. Khole is Associate Professor at the Institute of Science, Bombay. Dr. Khole returned to Dr. Herr's lab in January 2000 for a 1 year sabbatical supported by the Fogarty International Center at NIH. Dr. Khole received a Mellon Twinning Grant from CONRAD in 2001. She had a two month sabbatical in the Herr lab in 2002 (Fall). In 2003 she was appointed deputy Director of the Institute for Research in Reproductive Health in Bombay.
7/1/95-8/1/96	Li Bin, Ph.D - PAN AM Health Organization Fellow specializing in chemical engineering. He has returned to China, his home country.
9/1/96-12/31/97	Hiroaki Shibahara, M.D. - training was sponsored by the Japanese government. Returned to Assistant Professorship, Hyogo Medical College, Japan. Currently Associate Professor of Obstetrics and Gynecology, Jichi Medical School, Japan.
9/1/96-6/30/2003	Arabinda Mandal, Ph.D - Fogarty Fellowship, Berlex Fellowship. 2003 - Instructor in Cell Biology.
11/15/96-present	Jagathpala Shetty, Ph.D - Fogarty Fellowship. In 2003 advanced to Senior Scientist in cell Biology.

7/1/98 - 2000	Tod C. McCauley, Ph.D - Berlex Fellowship / NIH Postdoctoral Trainee. Currently Research Associate, University of Missouri.
7/23/98-10/1/01	Buer Sen, Ph.D - Fogarty Fellowship. Currently, Postdoctoral Fellow, Emory University.
9/1/98-02/01/02	Friederike Jayes, Ph.D - Berlex Fellowship. Currently: Scientist, National Institute Environmental Health Sciences, Research Triangle Park, NC.
10/1/99-present	Zhonglin Hao, MD, Ph.D - Berlex Fellowship. Currently: Resident, Dept. of Internal Medicine, Medical Center of Central Georgia
7/1/00-6/30/2002	Mike Coppola, Ph.D - Berlex Fellowship. Director of Research, ContraVac, Inc.
10/1/00-present	Young-Hwan Kim, Ph.D - Fogarty Fellowship.
2/1/03-present	Kula Nand Jha, Ph.D – Fogarty Fellowship.
4/1/01-present	Dr. Belen Herrero - Berlex Fellowship.
5/1/02-present	Pamela Schoppee, Ph.D – Berlex Fellow
6/1/02-present	Kim Fralix, Ph.D - NIH Postdoctoral Trainee 1992-1993. In 2003 (June 1) Dr Fralix received a LALOR Fellowship.
1/9/02-present	Silvia Pullido, Ph.D – Berlex Fellow
5/1/03-present	BingFang Xu, Ph.D – NIH Fellow
7/1/03-present	Geeta Vanage, Ph.D – Fogarty Fellow- Associate Professor, National Institute for Research in Reproductive Health, Mumbai, India
9/1/03-2/29/04	Alina Domagala, Ph.D – Fulbright Fellow- Researcher, Polish Academy of Sciences
9/1/03-present	Susan Sleight – Berlex Fellow
9/1/03-present	Jayasimha Rao – Fogarty Fellow
4/04-present	Sandeep Ranpura – Fogarty Fellow
1/26/04-present	Wei He, MD., Ph.D – Fogarty Fellow
4/01/04-3/30/05	Dr. Mangeet Sharma-Fogarty Fellow
4/01/04-present	Dr. Monica Sachedev-Fogarty Fellow

11/07/04-present	Yanfeng Li, MD, Ph.D.-Fogarty Fellow
10/07/04	Christian Gaudreault, Ph.D., CRCRH Fellow

Competitive Grants Awarded Previously

1979-81	NIH Postdoctoral Fellowship - "Isolation of Sperm Surface Antigens" NRSA
1981	University of Virginia Biomedical Research Support Award #5 S07RR 05431-20, \$9,950 start-up funds: "Sperm Isoantigens Recognized by Monoclonal Antibodies"
1981	American Cancer Society Small Institutional Grant Committee, \$5,000, pilot funds for "Anti-Sperm Antibody Production from Human X Human Hybridomas"
1982-present	Pratt Endowment Support for Establishing and Maintaining the Lymphocyte Culture Center
1982-85	Principal Investigator, NIH 1 R01 HD16767-01->03, "Antisperm Monoclonal Antibodies Isolated Post-Vasectomy." Project period: 9/30/82-9/29/85, \$155,004 Direct Cost
1983-86	Principal Investigator, NIH 1 R01 HD17489 "Protein Synthesis and Secretion by Human Decidual Cells." Project Period: 4/1/83 - 10/30/86; \$107,495 Direct Cost
1983-84	Principal Investigator, FBI Contract 115744 "Monoclonal Antibodies in Forensic Diagnosis," 10/1/83 - 9/31/84. Direct Cost: \$60,000
1983-86	Co-Investigator, NSF PC-8309364 "Secretion in the Epididymis" 12/83-11/86, \$205,000, Dr. Charles Flickinger, P.I.
1984-90	Co-Investigator, NIH HD18825; "Vasovasostomy: Morphology, Physiology and Immunology," 8/1/84 - 9/31/90. Total direct cost: \$311,053, Dr. Stuart Howards, P.I.
1984	Principal Investigator - Endotronics Industrial Collaborative Project, \$130,000 industrial contribution - Acusyst 150, MMCM
1984-87	Co-Investigator and Principal Investigator (1985-86) NIH HD-12335 "Developmental Aspects of Mammalian Calcium Transport", 12/1/84-11/30/87, \$233,531 Direct Cost, Dr. Elizabeth Bruns, Principal Investigator
1985-87	Collaborator - "Diabetes in the B.B. Rat" (NIH). Dr. Herr supervised one 1/2 time technician and one 3/4 time technician and directed histological aspects of this study. David Benjamin - P.I.
1985-86	Principal Investigator FBI Grant "MHS-5 & HSA Monoclonals" 2/1/85-1/31/86 Direct Cost \$89,274
1985-88	Principal Investigator NIH HD16767-04->06 "Monoclonal Antibodies to Human Sperm" \$175,359 Direct Cost 9/29/85-8/31/88
1986-88	Principal Investigator "Monoclonal Antibodies to the Tumor Inhibitor PB-1" Center for Innovative Technology/Philadelphia Biologicals \$47,994 2/1/87-1/31/88
1986-88	Principal Investigator, FBI Contract, "Monoclonal Antibodies to Vaginal Secretions" \$91,942 Direct Cost

1988-91	Principal Investigator, "Cloning and Purification of a Sperm Membrane Immunogen" 2/1/88-1/31/91, NIH HD23789 Direct Costs: \$346,564
1987-89	Principal Investigator, "Molecular Biology of Human Spermatogenesis," 8/1/87-7/31/89, Center for Innovative Technology and Humagen, Inc. Direct Costs: \$237,002
1987-91	Principal Investigator, "Optimization of Immunoglobulin Secretion from Mouse and Human Hybridomas," Technology Development Center, \$204,754 Direct Costs
1987-90	Principal Investigator, "Purification of Recombinant Immunogen and Scale Up of Expression System," Technology Development Center \$88,670 Direct Costs
1988-89	Principal Investigator, "Toward Development of a Monoclonal Antibody Derivatized Sperm Cell Affinity Bead", Lifecodes Corp. \$44,193 Direct Costs, 9/1/88-4/1/89
1988	Principal Investigator, "Scale-up of Hybridomas" Flow Laboratories \$23,000 Industrial Equipment Donation
1988-90	Principal Investigator, C.J. Flickinger Co-Principal Investigator, "Localization of a Human Sperm Contraceptive Vaccine Immunogen", Mellon Foundation \$85,000 11/1/88-4/31/90
1989	Principal Investigator, "World Health Organization Sperm Workshop", \$11,000 11/1/89 - WHO
1990	Principal Investigator, "Workshop: Cloning and Sequencing Human Testicular Genes" CONRAD/U.S. A.I.D. \$30,000
1991-1992	Principal Investigator, "Infertility Testing Under GLP", Ortho Pharmaceuticals, total direct costs 1/1/91-9/18/92, \$316,050
1991-1994	Co-Investigator, "Vasovasostomy: Morphology, Physiology and Immunology", Stuart Howards, PI, NIH HD18825, 4/1/91->3/31/95, \$344,549 total direct costs
1990-1995	Principal Investigator/Program Director, "Multidisciplinary Training Program in Biotechnology" NIH GM08401 \$482,798 total direct costs, 9/1/90->6/30/95
1991-1994	Principal Investigator, "Baboon Infertility Testing of Recombinant SP-10 Vaccine" NIH HD 23789-04-06, 8/1/91->7/31/94, \$301,639 total direct costs
1991-1994	Principal Investigator, "Incidence of SP-10 Antibodies in Sera and Secretions of Infertile Couples". United States Agency for International Development \$237,636 direct costs, 10/1/91-12/31/93
1992-1996	Principal Investigator, "Interdisciplinary Training in Contraceptive Vaccine Development" Mellon Foundation, \$700,000 1/1/93-4/1/96
1993-1995	Principal Investigator, "Baboon Fertility Trials of Recombinant Baboon SP-10", CONRAD, \$301,746 direct costs, 9/1/93-2/28/96
1996-1997	Principal Investigator, "Postdoctoral Fellowship on Behalf of A.B. Diekman", NIH, \$28,600 direct costs, 6/1/96-5/31/97
1991-2002	Principal Investigator, "Center for Recombinant Gamete Contraceptive Vaccinogens" NIH U54-HD29099, \$6,789,297 direct costs, 9/1/91 - 8/31/96; 9/1/96 - 2/28/97, \$713,849 direct cost; 3/1/97 - 2/30/98, \$1,863,707 total direct cost; 3/1/98 - 2/29/99, \$1,896,955 total direct cost; 3/1/99 - 2/28/00, \$1,674,101 total direct cost; 3/1/00 - 2/28/01, \$1,510,254 total direct cost.

1995-2000	Principal Investigator, D43 TW/HD00654 "Translational Contraceptive Research for Indian Postdocs", NIH Fogarty Center, 9/30/95 - 9/29/00 \$1,069,952 total direct cost
1996-1999	Principal Investigator, "Multi-Institutional Interdisciplinary Postdoctoral Training", Mellon Foundation, \$550,000, 4/1/96-3/31/99
1997-1998	Principal Investigator, ContraVac, "Recombinant Antibodies as Intra-Vaginal Spermicides," \$9,200 direct costs, 10/1/97-3/31/99
1997-1999	Principal Investigator, CIT, "Recombinant Antibodies as Intra-vaginal Spermicide", \$20,000 total direct cost, 11/1/97 - 10/31/99
1996-2001	Principal Investigator, "Isolation and Characterization of Genes Encoding Sperm Surface Antigens by Screening Human Testis Expression cDNA Library: Identification of a Candidate Molecule(s) for Development of Contraceptive Vaccine," Conrad MFG-96-19, \$113,606 total costs, current year \$27,018 total direct cost 10/1/96-09/30/01
1999-2002	Principal Investigator, "Training and New Research Initiatives in Contraceptive Development", Mellon Foundation, \$250,000 total direct costs, current year, 4.1.99-3.31.02
1999-2002	Principal Investigator, "Carbohydrate Immunocontraceptive Epitopes Identified in a Neoglycolip Library Derived from the Human SpermGlycocalyx", Mellon Foundation, Junior Investigator Award on behalf of Alan B. Diekman \$360,000 total direct cost current year, 4.1.99-3.31.02
1998-2002	Co-Investigator, "Cellular Regulation of the Developing Testis Following Vasal Ligation", NIH DK45179-01 \$98,953 direct costs current year, 7/1/98-6/30/02

Current Funding

1998-2004	Principal Investigator "Program of Research and Development for Sperm Antigen" \$4,507,530 total direct cost, \$1,210,645 annual direct cost, Sponsor: Schering, AG
1998-2004	Principal Investigator, NIH HD35523 "Immunological Mechanisms in Human Female Infertility", \$970,474 direct costs, 7/1/98-7/31/2004
2000-2004	Co-Investigator, "Characterization of Protein Tyrosine Phosphorylation during Human Sperm Capacitation", Mellon Foundation, \$420,000 total direct cost, current year, 4.1.00-3/31/2004
2000-2005	Co-Investigator, NIH HD38353 "Oolemma Proteomics", \$214,062 total direct cost, current year, 2/1/00-1/30/05
2000-2005	Principal Investigator, NIH, "Research Training in Reproduction for Asian Fellows", \$1,152,189 total direct cost, current year 9/30/00 - 9/25/05
2001-2004	Principal Investigator, "Contraceptive Vaccines for Dogs and Cats Based on Egg Membrane Antigens", The Kenneth A. Scott Charitable Trust, \$62,300 total direct cost, year 1.
2001-2006	Principal Investigator, "Contraceptive Vaccines for Dogs and Cats Based on Egg Membrane Antigens". Genetics Savings and Clone, \$775,520 total direct cost; \$96,200 total direct cost, year 1.
2000-2003	Principal Investigator, "Sperm Binding Magnetic Beads for Forensic PCR/DNA Analysis", National Institute of Justice, \$206,440 total direct cost, current year 10/1/2000-12/31/2003

2000-2004	Principal Investigator, NIH U54-HD29099 "Center for Recombinant Gamete Contraceptive Vaccinogens" \$1,723,054 total direct cost, 3/1/01 - 2/29/04
2001-2004	Principal Investigator, "Spermatid Specific transcription factors as targets for novel male contraceptives." \$420,000 total direct cost, Andrew W. Mellon Foundation Junior Investigator Award on behalf of P. P. Reddi
2002-2004	Principal Investigator, "Training and Research Infrastructure in Contraceptive Development." \$250,000 total direct cost, Andrew W. Mellon Foundation
2003-2008	Co-Investigator, "Cellular Regulation in Genitourinary Development" Project 4: development and regulation of Antimicrobial Peptides in the GU Tract.
2004-2009	\$150,000.00 total direct cost, current year, 7/1/2003-6/30/2008 NIH Co-Investigator, "Antimicrobial Proteins Secreted by the Epididymis" \$180,000 total direct cost, 5/15/2004 – 2/28/2009.

Preceptor on Training Grants and Program Projects

1982-present	Participant in the Developmental Biology Training Grants and the Cell and Molecular Biology Training Grant
1984-present	Participant in the National Cancer Institute Training Grant
1987-present	Participant in National Cancer Institute Program Project "Oncogenes and Development"
1988-present	Participant in Urology Training Grant
1988-present	Participant in Reproductive Biology Training Grant
1991-present	Participant in the Diabetes Center Grant
1992-1999	Participant in P30 Center Core Grant for Reproductive Sciences

Publications

Journal Articles

1. Herr, John C., and J. R. Ellison 1973 Drosophila salivary chromosomes as test system for antinuclear antibody assay. Clin. Exp. Immunol. 15: 451-456.
2. Martin, Lynn, John C Herr, B.A., William Wanamaker, M.D., and Steven Kornguth, Ph.D. 1974 Demonstration of specific antineuronal nuclear antibodies in sera of patients with myasthenia gravis. Indirect and direct immunofluorescence. Neurology 24: 680-683.
3. Herr, John C. 1976 Reflexive gap junctions. Gap junctions between processes arising from the same ovarian decidual cell. J. Cell Biol. 69: 495-501.
4. Larsen, William J., Paul M. Heidger, and John C. Herr 1976 "Central fold" or true junctional profile. J. Cell Biol. 71: 333.
5. Herr, John C. and Paul M. Heidger, Jr. 1977 Decidual cell secretion, a unique mode of exocytosis. Energy Research & Developmental Conference Report-TIC No. 77-504, pp. 88-94.
6. Herr, John C., Paul M. Heidger, Jr., James R. Scott, John W. Anderson, Louis B. Curet, and Harland W. Mossman 1978 Decidual cells in the human ovary at term. 1. Incidence, gross anatomy and ultrastructural features of merocrine secretion. Am. J. Anat. 152: 7-27.

7. Herr, John C., and Paul. M. Heidger, Jr., 1978 A freeze-fracture study of exocytosis and reflexive gap junctions in human ovarian decidual cells. *Am. J. Anat.* 152: 29-43.
8. Herr, John C., Charles E. Platz, M.D., Paul M. Heidger, Jr., Louis B. Curet, M.D., and C. M. Platz 1979 Smooth muscle within ovarian decidual nodules: a link to leiomyomatosis peritonealis disseminata? *Obstet. & Gynec.* 53: 451-456.
9. Herr, John C., and E. M. Eddy 1980 Detection of mouse sperm antigens by surface labeling and immunoprecipitation approach. *Biol. Reprod.* 22: 1263-1274.
10. Allison, Stuart. A., John C. Herr, and J. Michael Schurr 1981 Structure of viral 29 DNA condensed by simple triamines. A light scattering and electron microscopy study. *Biopolymers* 20: 469-488.
11. Vernon, Robert B., Charles H. Muller, John C. Herr, Frederick A. Feuchter, and E. M. Eddy 1982 Epididymal secretion of a mouse sperm surface component recognized by a monoclonal antibody. *Biol. Reprod.*, 26: 523-535.
12. Eddy, E. M., J. C. Herr, F. A. Feuchter, R. B. Vernon, C. H. Muller, and B. A. Fendersen 1982 The heterogeneity of the sperm surface as analyzed with monoclonal antibodies. *Cell Differentiation*, 11: 303-304.
13. Herr, John C., Jackson E. Fowler, Stuart S. Howards, Mark Sigman, William M. Sutherland, Deborah J. Koons 1985 Human antisperm monoclonal antibodies constructed postvasectomy. *Biology of Reproduction*, 32: 695-711.
14. M. Elizabeth H. Bruns, Ellen Kleeman, Stacey E. Mills, David E. Bruns, John C. Herr 1985 The immunochemical localization of vitamin D-dependent calcium-binding protein in mouse placenta and yolk sac. *Anat. Rec.* 213: 514-517.
15. Herr, John C. and Donald E. Spell 1985 Type A retrovirus particles in heterohybridomas: precaution for human monoclonal antibody purification. *J. Ultra. Res.* 92: 80-85.
16. Robert J. Evans and John C. Herr 1986 Immunohistochemical localization of the MHS-5 antigen in principal cells of the human seminal vesicle epithelium. *Anatomical Record* 214: 372-377.
17. Herr, John C., Theresa A. Summers, Robert S. McGee, William M. Sutherland, Mark Sigman, Robert J. Evans 1986 Characterization of a monoclonal antibody to a conserved epitope on human seminal vesicle- specific peptides: A novel probe/marker system for semen identification. *Biol. Repro.*, 35: 773-784.
18. Flickinger, Charles J., John C. Herr and Karin E. Ertl 1986 Identification and isolation of epididymal luminal proteins of the mouse. *J. Androl.*, 7: 163-168.

19. Herr, John C. and Michael P. Woodward 1987 An Enzyme-linked immunosorbent Assay (ELISA) for human semen identification based on a biotinylated monoclonal antibody to a seminal vesicle-specific antigen, *J. Forensic Science*, 32 (#2): 346-356.
20. Herr, John C., Charles J. Flickinger, Stuart S. Howards, Scott Yarbro, Donald R. Spell, Daniel Caloras and Thomas N. Gallien 1986 An enzyme-linked immunosorbent assay for measuring anti-sperm autoantibodies following vasectomy in Lewis rats. *Am. J. Reprod. Immunol.* 11: 75-81.
21. Herr, John C., Naugi H. Fares and Mohammed A. Banhawy 1987 Decidual cells in the human ovary at term: II Morphometric analysis of cytoplasmic process and organelles. *Am. J. Anat.*, 179: 277-284.
22. Benjamin, David C., John C. Herr, William M. Sutherland, Michael P. Woodward, Kristi DeCoursey, and Thomas P. Condon 1987 A unique epitope on human serum albumin recognized by monoclonal antibody HSA-1: A probe for identification of the human origin of blood or tissue. *Hybridoma*, vol. 6, (#2), 183-190.
23. Herr, John C., Charles J. Flickinger, Stuart S. Howards, E. Scott Yarbro, Donald R. Spell, Daniel Caloras and Thomas N. Gallien 1987 Temporal appearance of antisperm autoantibodies in Lewis rats following vasectomy. *J. Androl.*, 8: 253-258.
24. Flickinger, Charles J., Stuart S. Howards, John C. Herr, Daniel Caloras, Thomas N. Gallien, E. Scott Yarbro, and Donald R. Spell 1986 The incidence of spermatic granulomas and their relation to testis weight after vasectomy and vasovasostomy in Lewis rats. *J. Andrology* 7: 285-291.
25. Kisalus, Lydia L., Wallace C. Nunley, John C. Herr 1987 Protein synthesis and secretion in human decidua of early pregnancy. *Biol. Reprod.*, 36: 785-798.
26. Flickinger, Charles J., John C. Herr, Stuart S. Howards, Daniel Caloras, E. Scott Yarbrough, Donald E. Spell, Thomas N. Gallien 1987 The influence of vasovasostomy on testicular alterations after vasectomy in Lewis rats. *Anat. Rec.*, 217: 137-145.
27. McGee, Robert S. and John C. Herr 1987 Human seminal vesicle-specific antigen during semen liquefaction. *Biol. Reprod.*, 37: 431-439.
28. Herr, John C., Charles J. Flickinger, Stuart S. Howards, Daniel Caloras, E. Scott Yarbro, Donald R. Spell, Thomas N. Gallien 1987 The relation between antisperm antibodies and testicular alterations after vasectomy and vasovasostomy in Lewis rats. *Biol. Reprod.*, 37: 1297-1305.
29. Lydia L. Kisalus, John C. Herr, and Charles D. Little 1987 Immunolocalization of Extracellular matrix proteins and collagen synthesis in first trimester human decidua. *Anat. Rec.*, 218: 402-415.
30. Herr, John C. 1987 Seminal vesicle specific antigen. *Clin. Chem. News*, 13: 8-9.

31. Flickinger, Charles J., John C. Herr, Kenneth L. Klotz 1988 Immunocytochemical localization of the major glycoprotein of epididymal fluid from the cauda in the epithelium of the mouse epididymis. *Cell Tiss. Res.* 251: 603-610.
32. Riad, Nahed H., M. Elizabeth Bruns, Nagui H. Fares, David E. Bruns and John C. Herr 1988 Ultrastructural localization of vitamin D-dependent calcium-binding protein in the murine intraplacental yolk sac. *Anat. Rec.* 222: 252-259.
33. McGee, Robert S. and John C. Herr 1988 Human seminal vesicle-specific antigen is a substrate for prostate specific antigen P30. *Biol. Reprod.* 39: 499-510.
34. Evans, R. K., Robert S. McGee, T. Summers, Deborah J. Koons, William H. Sutherland, and John C. Herr 1987 Monoclonal antibody: MHS-5 New probe for sexual assault evidence. *Virginia Medical* 114: 411-415.
35. Carey, Peter O., Stuart S. Howards, Charles J. Flickinger, John C. Herr, Thomas N. Gallien, Daniel Caloras, Donald R. Spell 1988 Effects of granuloma formation at site of vasovasostomy. *J. Urol.* 139: 853-856.
36. Flickinger, Charles J., Stuart S. Howards, Peter O. Carey, Donald R. Spell, S.J. Kendrick, Daniel Caloras, Thomas N. Gallien and John C. Herr 1988 Testicular alterations are linked to the presence of elevated antisperm antibodies in Sprague-Dawley rats after vasectomy and vasovasostomy. *Journal of Urology* 140: 627-631.
37. Handley, Harold H., Charles J. Flickinger and John C. Herr 1988 Post - Vasectomy autoantigens in Lewis rat. *Biol. Reprod.* 39: 1239-1250.
38. Kisalus, Lydia L. and John C. Herr 1988 Immunocytochemical localization of heparan sulfate proteoglycan in human decidua cell secretory bodies and placental fibrinoid. *Biol. Reprod.* 39: 419-430.
39. Herr, John C., Donald R. Spell, Dorothy J. Conklin, Charles J. Flickinger 1989 Electron microscopic immunolocalization of seminal vesicle - specific antigen in human seminal vesicle. *Biol. Reprod.* 40: 333-342.
40. Herr, John C., Stuart S. Howards, Donald R. Spell, Peter O. Carey, Sheila J. Kendrick, Thomas N. Gallien Harold Hadley and Charles J. Flickinger 1989 The influence of vasovasostomy on antisperm antibodies in rats. *Biol. Reprod.* 40: 353-360.
41. Herr, John C., Dorothy Conklin and Robert McGee 1989 Purification of low molecular weight forms of seminal vesicle specific antigen by immunoaffinity chromatography on bound monoclonal antibody MHS-5. *J. Reprod. Immunol.* 16: 99-113.
42. Herr, John C., Charles J. Flickinger, Mona Homyk, Kenneth Klotz, Edward John 1990 Biochemical and morphological characterization of the intra-acrosomal antigen SP-10 from human sperm. *Biol. Reprod.* 42: 181-193.

43. Flickinger, C.J., J.C. Herr, S.S. Howards, John R. Sisak, J.M. Gleavy, T.J. Fusia, L.D. Vailes, H. Handley. 1989 Early testicular changes after vasectomy and vasovasostomy in Lewis rats. *Anat. Rec.* 227: 37-46.
44. Homyk, M., D.J. Anderson, H. Wolff, J.C. Herr 1990 Differential diagnosis of immature germ cells in semen utilizing monoclonal antibody MHS-10 to the intra-acrosomal (protein) SP-10. *Fert. Steril.* 53: 323-330.
45. Scott, Joanne, Daniel C. Benjamin, John C. Herr, Victor H. Engelhard 1988 Sites of the defects leading to autoimmunity in the spontaneously diabetic BB rat. *Adv. Exp. Med. Biol.* 246: 53-62.
46. Flickinger, Charles J., John C. Herr, Stuart S. Howards, Daniel Caloras, E. Scott Yarbro, Donald R. Spell, Thomas N. Gallien, John R. Sisak 1990 Inflammatory changes in the epididymis after vasectomy in the Lewis rat. *Biol. Reprod.* 43: 34-45.
47. Handley, Harold H., Charles J. Flickinger and John C. Herr 1990 Biphasic production of antisperm autoantibodies follows vasectomy of the Lewis rat. *J. Reprod. Immunol.* 17: 53-67.
48. Herr, John C., Richard M. Wright, Edward John, James Foster, Todd Kays and Charles J. Flickinger 1990 Identification of human acrosomal antigen SP-10 in primates and pigs. *Biol. Reprod.* 42: 377-382.
49. Coddington, Charles C., David L. Fulgham, Nancy J. Alexander, Deborah Johnson, John C. Herr and Gary D. Hodgen 1990 Sperm bound to zona pellucida in hemizona assay (HZA) demonstrate acrosome reaction when stained with T-6 antibody. *Fertil. Steril.* 54: 504-508.
50. Wright, Richard M., Edward John, Kenneth Klotz, Charles J. Flickinger and John C. Herr 1990 Cloning and sequencing of cDNAs coding for the human intra-acrosomal antigen SP-10. *Biol. Reprod.* 42: 693-701.
51. Handley, Harold H., John C. Herr and Charles J. Flickinger 1991 Localization of post-vasectomy sperm autoantigens in the Lewis rat. *J. Reprod. Immunol.*, 20: 205-220.
52. Kurth, Barbara E., Kenneth Klotz, Charles J. Flickinger and John C. Herr 1991 Localization of sperm antigen SP-10 during the six stages of the cycle of the seminiferous epithelium in man. *Biol. Reprod.* 44: 814-821.
53. Flickinger, Charles J., John C. Herr, Peter O. Carey, E. Scott Yarbro, John R. Sisak, Deborah Williams, Susan Krentz and Stuart S. Howards 1990 Factors that influence fertility after vasovasostomy in Lewis rats. *Fertil. Steril.* 56: #3, 555-562.
54. Herr, John C., Richard M. Wright, Charles J. Flickinger, Roger L. Eddy and Thomas B. Shows 1991 Assignment of the gene for human intra-acrosomal protein SP-10 to the p12 -> q13 region of chromosome 11. *J. Andrology* 12: 281-287.

55. Herr, John C., Kenneth Klotz, John Shannon, Richard M. Wright and Charles J. Flickinger 1992 Purification and microsequencing of the intra-acrosomal protein SP-10. Evidence that SP-10 heterogeneity results from endoproteolytic processes. *Biol. Reprod.* 47: 11-20.
56. Foster, James A. and John C. Herr 1992 Interactions of human sperm acrosomal protein SP-10 with the acrosomal membranes. *Biol. Reprod.* 46: 981-990.
57. Beecher, Kelly L., Mona Homyk, Chi-Yu Gregory. Lee and John C. Herr 1993 Evidence that 68-Kilodalton and 54-51-Kilodalton Polypeptides are components of the human sperm fibrous sheath. *Biol. Reprod.* 48: 154-164.
58. Mona Homyk and John C. Herr 1992 Light and electron microscopic immunolocalization of sperm proteins identified by monoclonal antibodies from the World Health Organization taskforce on sperm antigens. *J. Reprod. Immunology.* 22: 237-256.
59. Flickinger, Charles J., John C. Herr, John R. Sisak, and Stuart S. Howards 1992 ultrastructure of epididymal interstitial reactions after vasectomy and vasovasostomy. *Anat. Record* 235: 61-73.
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61. Shen, M., Richard M. Wright, G. Carta and John C. Herr 1993 Assay for recombinant and native human intra-acrosomal antigen SP-10. *Am. J. Reprod. Immunol.* 29: 231-240.
62. Fares, Naugi H. and John C. Herr 1993 Computer assisted analysis of electron microscopic images of human decidua cells at term. *J. Egypt. Ger. Soc. Zool.* 10: 165-184.
63. Kurth, Barbara, Richard M. Wright, Charles J. Flickinger and John C. Herr 1993 Stage-specific detection of mRNA for the sperm antigen SP-10 in human testis. *Anat. Record* 236: 619-625.
64. Wright, Richard M., Anil K. Suri, Bryan Kormreich, Charles J. Flickinger and John C. Herr 1993 Cloning and characterization of the gene coding for the human acrosomal protein SP-10. *Biol. Reproduction* 49: 316-325.
65. Golden, Wendy L., Chris von Kap-Herr, Barbara Kurth, Richard M. Wright, Charles J. Flickinger, Roger Eddy, Thomas Shows and John C. Herr 1993 Refinement of the localization of the gene for human intra-acrosomal protein SP-10 (ACRV1) to the junction of bands q23 -> q24 of chromosome 11 by nonisotopic in situ hybridization. *Genomics* 18, (2): 446-449.

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67. Foster, James A., Kenneth Klotz, Charles J. Flickinger, Thomas S. Thomas, Richard M. Wright, James R. Castillo and John C. Herr 1994 Human SP-10. Acrosomal distribution, processing, and fate after the acrosome reaction. *Biol. of Reprod.*51: 1222-1231.
68. Freemerman, Alex J., Richard M. Wright, Charles J. Flickinger and John C. Herr 1994 Tissue specificity of the Acrosomal Protein SP-10: A contraceptive vaccine candidate molecule. *Biol. of Reprod.*50: 615-621.
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70. Flickinger, Charles J., Stuart S. Howards, Leigh Ann Bush, Linda A. Baher and John C. Herr 1995 Antisperm autoantibody responses to vasectomy and vasovasostomy in Lewis and Fisher rats. *J. Reprod. Immunology* 28: 137-157.
71. Flickinger, Charles J., Stuart S. Howards, Leigh Ann Bush, Linda A. Baher and John C. Herr 1994 Temporal recognition of sperm autoantigens by IgM and IgG autoantibodies after vasectomy and vasovasostomy. *J. Reprod. Immunol.* 27: 135-150.
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75. Flickinger, Charles J., John C. Herr, Maureen Baran, and Stuart Howards 1995 Testicular development and the formation of spermatic granulomas of the epididymis after obstruction of the vas deferens in immature rats. *J. Urology* 154: 1539-1544.
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79. Dandulakis, Gregory, John C. Herr, Donald J. Kirwan 1995 Cell growth and monoclonal antibody production in the presence of antigen and serum. *Biotechnology Progress* 11: 518-524.
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85. Michael J. Wolkowicz, Scott A. Coonrod and John C. Herr 1996 Refinement of the differentiated phenotype of the spermatogenic cell line GC-2spd (ts). *Biol. Reprod.* 55: 923-932.
86. Charles Flickinger, Stuart S. Howards, Maureen Baran, Nikki Pessoa and John C. Herr 1997 Appearance of natural anti-sperm autoantibodies after sexual maturation of normal Lewis rats. *J. Reprod. Immunol.* 33 (2): 127-145.
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91. Charles J. Flickinger, Leigh Ann Bush, Stuart S. Howards, and John C. Herr 1997 Distribution of leukocytes in the epithelium and interstitium of four regions of the Lewis rat epididymis. *Anat. Rec.* 248: 380-390.
92. Soren Naaby-Hansen, Richard W. Roof, Charles J. Flickinger, Constance M. Grafer, Sarah J. Parsons, and John C. Herr 1997 A novel negative imaging technique for accurate localization of stainable proteins on complex (Two-dimensional) autoradiograms. *Electrophoresis* 18: 2065-2070.
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Invited Articles

1. Flickinger, C.J., J.C. Herr, R.S. McGee, R.J. Evans, W.M. Sutherland, M. Sigman, T.A. Summers, D.R. Spell, D.J. Conklin 1990 Dynamics of a human seminal vesicle specific protein. Proceedings International Workshop on Seminal and Sperm Specific Proteins in Honor of T. Mann, September, 1989. Andrologia 22, Suppl 1, 142-154.
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Patents Developed at Virginia and Held by UVA Patent Foundation (updated 2/05)

A. Issued U.S. Patents

1. Inventors: J.C. Herr, M. Sigman and W. Sutherland
Title: "Monoclonal Antibody to MHS-5: a New Probe for Sexual Assault Analyses"
UVAPF Docket no. 0272-01 (Herr-MHS-5)
Filed June 5, 1985
U.S. Patent 4,741,998 Issued May 3, 1988
2. Inventors: J C. Herr, M. Sigman, and W. Sutherland
Title: "Monoclonal Antibody to MHS-5; a New Probe for Sexual Assault Analysis"
UVAPF Docket no. 0272-02 (Herr-MHS-5)
Filed April 21, 1987
U.S. Patent 5,047,508 Issued Sept. 10, 1991
3. Inventors: J.C. Herr and D. Benjamin
Title: "Monoclonal Antibodies and Method of Identifying Species Using the Same"
UVAPF Docket no. 0278-01 (Herr-HSA-1)

Filed July 16, 1985
U.S. Patent 4,735,898 Issued April 5, 1988

4. Inventors: J.C. Herr and R. M. Wright
Title: "Human Intra-Acrosomal Sperm Antigen"
UVAPF Docket no. 0215-02 (Herr-Sprmagp)
Filed on Feb. 16, 1990
US Patent 5,436,157 Issued July 25, 1995
5. Inventors: J.C. Herr and R.M. Wright
Title: "Primate Intra-Acrosomal Sperm Antigen for Use in a Contraceptive Vaccine"
UVAPF Docket no. 0215-04 (Herr-Sprmagp)
Filed Aug. 18, 1984
U.S. Patent 5,602,005 Issued Feb. 11, 1997
6. Inventors: J.C. Herr and R.M. Wright
Title: "Primate Intra-Acrosomal Sperm Antigen for Use in a Contraceptive Vaccine"
UVAPF Docket no. 0215-05 (Herr-Sprmagp)
Filed Oct. 30, 1995
U.S. Patent 5,753,231 Issued May 19, 1998
7. Inventors: J. C. Herr and R. M. Wright
Title: "Human Sperm Diagnostic"
UVAPF Docket no. 215-13 (Herr-Sprmdia)
Filed April 25, 1994
U.S. Patent 5,605,803, Issued Feb. 25, 1997.
8. Inventors: J.C. Herr, A.B. Diekman, E. Norton, and A. Westbrook-Case
Title: "Purified Sperm Surface Antigen, Monoclonal Antibody Therefor and Applications Therefor"
UVAPF Docket No. 216-01 (Herr-Sprmdia)
Filed June 28, 1996
U.S. Patent 5,830,472 Issued Nov. 3, 1998.
9. Inventors: J.C. Herr, A.B. Diekman, V.A. Westbrook-Case, and E. Norton
Title: "Purified Sperm Surface Antigen, Monoclonal Antibody Therefor and Applications Therefor"
UVAPF Docket No. 216-03 (Herr-Sprmdia)
Filed Feb. 23, 1998
U.S. Patent 6,258,364 Issued July 10, 2001
10. Inventors: P.P. Reddi, CJ. Flickinger, J.C. Herr
Title: "Methods and Composition for Modulating Spermatogenesis"
UVAPF Docket no. 00271-04 (Herr-Mouse)
Filed June 25, 1999
U.S. Patent 6,355,480 Issued on March 12, 2002
11. Inventors: Z. Hao, J.C. Herr, F. Jayes, J. Shetty, and M. Wolkowicz
Title: "Sperm Specific Proteins"
UVAPF Docket no. 00497-08 (Herr-NIH)
PCT/US01/01717 filed Jan. 19, 2001
Pending U.S. Divisional Application no. 10/809,654 (off of 10/181,642 Filed March 25, 2004)
U.S. Patent 6,924,121 Issued on Aug 2, 2005

12. Inventors: J.C. Herr, P. Visconti, and Z. Hao
 Title: "Human Testis Specific Serine/Threonine Kinase 1&2"
 US Patent 6,946,275 B2
 Issued Sept. 20, 2005
 UVAPF Docket no. 00623-07 (Herr-Kinase)
 PCT/US01/46803 Filed Nov. 9, 2001
 U.S. Application no. Filed May 9, 2003
13. Inventors: J.C. Herr, S.C. Coonrod, and P. Wright
 Title: "Egg-Specific Surface Proteins"
 US Patent 6,962,988
 Issued November 8, 2005
 UVAPF Docket no. 00498-07 (Herr-MOP/CD9)
 PCT/US01/01718 Filed Jan. 19, 2001
 Pending U.S. Application no. 10/181,612 Filed July 18, 2002

B. Issued Foreign Patents

14. Inventors: J.C. Herr and R.M. Wright
 Title: "Human Intra-Acrosomal Sperm Antigen for Use in a Contraceptive Vaccine"
 UVAPF Docket nos. 0215-08-10, 12, 19-30 (Herr-Sprmagnp)
 16 Foreign Patents Issued in Denmark (461177), Norway (312594), Canada (2,0505,910), Australia (649609), Sweden (461,177), Spain (461177), Switzerland (461177), France (461177), Austria (461177), Germany (461177), United Kingdom (461177), Luxembourg (461177), Netherlands (461177), Italy (461177), Belgium (461177), and Liechtenstein (461177)
15. Inventors: J.C. Herr, A.B. Diekman, E. Norton, and V.A Westbrook-Case
 Title: "Purified Sperm Surface Antigen, Monoclonal Antibody Therefor and Applications Therefor"
 UVAPF Docket nos. 216-05-7, 10, 15, 16 (Herr-SprmAb1)
 6 Foreign Patents Issued in Israel (127,764), Czech Republic (293040), Australia (722559), Eurasian Patent Office (199900067K), Poland (186809), Slovakia (281505)
16. Inventors: J.C. Herr, S. Naaby-Hansen, and C. Flickinger
 Title: "Method for the Production of Vaccines Against Cell Surface Proteins"
 UVAPF Docket no. 00217-04 (Herr-Vocprod)
 1 Foreign Patent Issued in Australia (743703) Issued May 16, 2002

C. Pending U.S. National Stage Patent Applications

15. Inventors: J.C. Herr, K. Klotz, and A. Diekman
 Title: "Sperm Cell Selection Systems for Forensic DNA Analysis of the Male Component"
 UVAPF Docket no. 00474-03 (Herr-Bead)
 PCT/US00/31771 Filed Nov. 17, 2000
 Pending U.S. Application no. 10/146,552 Filed May 15, 2002
16. Inventors: J.C. Herr, A. Mandal, F. Jayes, J. Shetty, and M. Wolkowicz
 Title: "Sperm Specific Lysozyme Like Proteins"
 UVAPF Docket no. 00489-08 (Herr-Lysozym)
 PCT/US01/01716 Filed Jan. 19, 2001
 Pending U.S. Application no. 10/181,611 Filed July 18, 2002

17. Inventors: J.C. Herr, S. Naaby-Hansen, M. Wolkowicz, A. Mandal, and Sen Beur
Title: "CBP86, a Sperm Specific Protein"
UVAPF Docket no. 00492-07 (Herr-CBP86)
PCT/US01/01715 Filed Jan. 19, 2001
Pending U.S. Application no. 10/181,638 Filed July 19, 2002
18. Inventors: J.C. Herr, E. J. Norton, and A. B. Diekman
Title: "Recombinant Antibody Directed Against the Human Sperm Antigen"
UVAPF Docket no. 00415-03 (Herr-RASA)
PCT/US00/19843 Filed July 21, 2000
Pending U.S. Application Nationalized no. 10/031,783 Filed May 2, 2002
19. Inventors: J.C. Herr, J. Shetty, M. Wolkowicz, F. Jayes, and Z. Hao
Title: "Sperm Specific Proteins"
UVAPF Docket no. 00497-07 (Herr-NIH)
PCT/US01/01717 filed Jan. 19, 2001
Pending U.S. Application Nationalized no. 10/181,642 Filed March 25, 2004
20. Inventors: Z. Hao, J.C. Herr, F. Jayes, J. Shetty, and M. Wolkowicz
Title: "Sperm Specific Proteins"
UVAPF Docket no. 00497-08 (Herr-NIH)
PCT/US01/01717 filed Jan. 19, 2001
Pending U.S. Divisional Application no. 10/809,654 (off of 10/181,642 Filed March 25, 2004)
21. Inventors: Z. Hao, J.C. Herr, F. Jayes, J. Shetty, and M. Wolkowicz
Title: "Sperm Specific Proteins"
UVAPF Docket no. 00497-09 (Herr-NIH)
PCT/US01/01717 filed Jan. 19, 2001
Pending U.S. Divisional Application no. 10/809,655 (off of 10/181,642 Filed March 25, 2004)
22. Inventors: J.C. Herr, P. Visconti, and Z. Hao
Title: "Human Testis Specific Serine/Threonine Kinase 1&2"
UVAPF Docket no. 00623-07 (Herr-Kinase)
PCT/US01/46803 Filed Nov. 9, 2001
Pending U.S. Application no. 10/438,339 Filed May 9, 2003
23. Inventors: J.C. Herr, P. Visconti, Z. Hao, and G. Kopf
Title: "Human Testis Specific Serine/Threonine Kinase 3"
UVAPF Docket no. 00623-012 (Herr-Kinase3)
PCT/US01/46803 Filed Nov. 9, 2001
Pending U.S. Application no. 10/438,339 Filed May 9, 2003
24. Inventors: J.C. Herr, A. Mandal, M. Wolkowicz, and K. Klotz.
Title: "Methods and Compositions for Modulating Fertility"
UVAPF Docket no. 00121-03 (Herr-FSP95)
PCT/US00/02675 Filed Feb. 1, 2000
Pending U.S. Application no. US 09/890,709 Filed July 31, 2001

25. Inventors: J.C. Herr and P.P. Reddi
Title: "An Insulator Element Having Enhancer-Blocking Properties"
UVAPF Docket no. 00567-03 (Herr-Silence)
PCT/US01/17110 filed on May 25, 2001
Pending U.S. Application no. US 10/297,008 Filed Nov. 26, 2002
26. Inventors: J.C. Herr, P.E. Visconti, A. Wagenfield, M.A. Coppola, Z. Hao, and S. Vemuganti.
Title: "TSSK4, A Human Testes Specific Serine/Threonine Kinase"
UVAPF Docket no. 00927-02 (Herr-Kinase4)
Pending U.S. Application no. 10/754,829 Filed Jan. 8, 2004

D. Pending Foreign National Stage Patent Applications

27. Inventors: J.C. Herr and R.M. Wright
Title: "Human Intra-Acosomal Sperm Antigen for Use in a Contraceptive Vaccine"
UVAPF Docket no. 0215-11 (Herr-Sprmagp)
PCT/US90/00978 Filed March 2, 1990
Pending Foreign Application Nationalized in Japan
28. Inventors: J.C. Herr, A.B. Diekman, and E. Norton.
Title: "Purified Sperm Surface Antigen, Monoclonal Antibody Therefor and Applications Therefor"
UVAPF Docket nos. 216-11-14,15,16 (Herr-SprmAb1)
PCT/US97/10813 Filed June 30, 1997
Pending Foreign Applications Nationalized in Japan, Ukraine, Brazil, Norway, Republic of Korea, Canada, Mexico, China, and Hungary
29. Inventors: J.C. Herr, S. Naaby-Hansen, and C. Flickinger
Title: "Method for the Production of Vaccines Against Cell Surface Proteins"
UVAPF Docket no. 00217-05-12 (Herr-Vocprod)
PCT/US98/02913 Filed Feb. 25, 1998
Pending Foreign Applications Nationalized in Brazil, Canada, Hungary, Israel, Japan, Mexico, Poland, and the Republic of Korea
30. Inventors: J.C. Herr, S.C. Coonrod, and P. Wright.
Title: "Egg-Specific Surface Proteins" filed Jan. 20, 2000.
UVAPF Docket no. 00498-03-6 (Herr-MOP/CD9)
PCT/US01/01718 Filed Jan 19, 2001
Pending Foreign Applications Nationalized in Australia, Canada, European Patent Office, and Japan
31. Inventors: P.P. Reddi, CJ. Flickinger, and J.C. Herr
Title: "Methods and Composition for Modulating Spermatogenesis"
UVAPF Docket no. 00271-05-09 (Herr-Mouse)
PCT/US99/14275 Filed June 25, 1999
Pending Foreign Applications Nationalized in Israel, European Patent Office, Japan, Australia, and Canada
32. Inventors: J.C. Herr, A. Mandal, F. Jayes, J. Shetty, and M. Wolkowicz
Title: "Sperm Specific Lysozyme Like Proteins"
UVAPF Docket no. 00489-04-07 (Herr-Lysozym)
PCT/US01/01716 Filed Jan. 19, 2001
Pending Foreign Applications Nationalized in Australia, Canada, European Patent Office, and Japan
33. Inventors: J.C. Herr, S. Naaby-Hansen, A. Mandal, S. Beur, and M.J. Wolkowicz
Title: "CBP86, a Sperm Specific Protein"

UVAPF Docket no. 00492-03-06 (Herr-CBP86)
PCT/US01/01715 Filed Jan. 19, 2001
Pending Foreign Applications Nationalized in Australia, Canada, European Patent Office, and Japan

34. Inventors: J.C. Herr, J. Shetty, M. Wolkowicz, F. Jayes, and Z. Hao
Title: "Sperm Specific Proteins"
UVAPF Docket no. 00497-03-06 (Herr-NIH)
PCT/US01/01717 Filed Jan. 19, 2001
Pending Foreign Applications Nationalized in Australia, Canada, European Patent Office, and Japan
35. Inventors: J.C. Herr, P. Visconti, and Z. Hao
Title: "Human Testis Specific Serine/Threonine Kinase 1&2"
UVAPF Docket no. 00623-04-06,-08 (Herr-Kinase)
PCT/US01/46803 Filed Nov. 9, 2001
Foreign Applications Nationalized in Australia, Israel, Japan, and the European Patent Office
36. Inventors: J.C. Herr, P. Visconti, Z. Hao, and G. Kopf.
Title: "Human Testis Specific Serine/Threonine Kinase 3"
UVAPF Docket no. 00623-09-11,-13 (Herr-Kinase3)
PCT/US01/46803 Filed Nov. 9, 2001
Foreign Applications Nationalized in Australia, Israel, Japan, and the European Patent Office
37. Inventors: J.C. Herr, A. Mandal, M. Wolkowicz, and K. Klotz.
Title: "Methods and Compositions for Modulating Fertility"
UVAPF Docket no. 00121-03 (Herr-FSP95)
PCT/US00/02675 Filed Feb. 1, 2000
Foreign Application Nationalized Australia (35868/00)

E. Pending PCT Applications

38. Inventors: J.C. Herr, M.B. Herrero, A. Mandal, and L.C. Digilio
Title: "Sperm Specific Lysozyme-Like Proteins"
UVAPF Docket no. 00857-02 (Herr-SLP.USE)
PCT/US04/01240 Filed Jan. 16, 2004
39. Inventors: C.D. Allis, J.C. Herr, S.A. Coonrod, and Y. Wang
Title: "ePAD, an Oocyte Specific Protein"
UVAPF docket no. 00856-02 (Herr-ePAD)
PCT/US04/00591 Filed Jan. 8, 2004
40. Inventors: J.C. Herr, P.E. Visconti, A. Wagenfield, M.A. Coppola, Z. Hao, and S. Vemuganti
Title: "TSSK4, A Human Testes Specific Serine/Threonine Kinase"
UVAPF Docket no. 00927-02 (Herr-Kinase4)
PCT/US04/02531 Filed Aug. 5, 2004
41. Inventors: J.C. Herr and A. Mandal
Title: "SpermCollect™, A Glans Compatible Single Unit Semen Collection and Storage Device, Kit, and Related Method Thereof"
UVAPF Docket no. 00942-02 (Herr-Collect)
PCT/US04/036916 Filed Nov. 5, 2004

42. Inventors: John C. Herr and Susan Sleight
Title: "Bands5: A Human Testis Specific Protein"
UVAPF Docket no. 00955-02 (Herr-Band5)
PCT/US04/041440 Filed Dec. 8, 2004
43. Inventors: L. Gilmer, A. Mandal, M.J. Wolkowicz, K.L. Klotz, and J.C. Herr
Title: "Compositions of Identifying Sperm for Forensic Applications"
UVAPF Docket no. 00952-03 (Herr-Paint)
PCT (no. to be assigned) Filed Feb. 7, 2005

F. Pending Provisional Patent Applications

44. Inventors: A. Mandal and J.C. Herr
Title: "Active Recombinant Human Lysozyme"
UVAPF Docket no. 00954-01 (Herr-ActiveLZ)
Provisional Filed Feb. 20, 2004
45. Inventors: Y.H. Kim and J.C. Herr
Title: "SFEC, A Sperm Flagellar Energy Carrier Protein"
UVAPF Docket no. 00973-01 (Herr-SFEC)
Provisional Filed March 17, 2004
46. Inventors: S.H. Lim, J.C. Herr, and A. Mandal
Title: "Use of SLLP Proteins for Identification, Diagnosis, and Treatment of Cancer"
UVAPF Docket no. 01000-01 (Herr-SLLPCAN)
Provisional Filed June 22, 2004
47. Inventors: S.B. Sleight, J.C. Herr, and B. Xu
Title: "Sperm Specific Raft Associated Proteins"
UVAPF Docket no. 01035-01 (Herr-Band10)
Provisional Filed Aug. 25, 2004
48. Inventors: J.C. Herr and Y.H. Kim
Title: "Sperm Flagellar Energy Carrier Protein as a Contraceptive Target"
UVAPF Docket no. 01045-01 (Herr-Polyol)
Provisional Filed Sept. 30, 2004
49. Inventors: J.C. Herr, B. Xu, and Z. Hao
Title: "Validation of TSSK Family Members and TSKS as Male Contraceptive Targets"
UVAPF Docket no. 01048-01 (Herr-TSSK)
Provisional Filed Sept. 30, 2004
50. Inventors: Y.H. Kim and J.C. Herr
Title: "SFEC, A Sperm Flagellar Energy Carrier Protein"
UVAPF Docket no. 00973-01 (Herr-SFEC)
Provisional Filed March 17, 2004
51. Inventors: J.C. Herr, V.A. Westbrook, P.D. Schopeee, and K.L. Klotz
Title: "Use of SPAN-X for Identification, Diagnosis and Treatment of Fertility and Cancer Related Diseases and Disorders"
UVAPF Docket no. 01059-01 (Herr-XAssay)
Provisional Filed Nov. 5, 2004

52. Inventors: W. He and J.C. Herr
Title: "Compositions and Methods for Novel ePAD Genes"
UVAPF Docket no. 01063-01 (Herr-cdePAD)
Provisional Filed Nov. 23, 2004
53. Inventors: W. He and J.C. Herr
Title: "Contraceptive Vaccines for Dogs and Cats Based on Egg Membrane Antigens"
UVAPF Docket no. 01065-01 (Herr-VetVaccine)
Provisional Filed Nov. 23, 2004
54. Inventors: O. Chertihin and J.C. Herr
Title: "Contraceptive Vaccines for Dogs and Cats Based on Egg Membrane Antigens"
UVAPF Docket no. 01065-02 (Herr-Vet2)
Provisional Filed Dec. 14, 2004

Other Patents

55. Inventors: D. Gerdt and J.C. Herr. "Fiber Optic Evanescent Wave Sensor for Immunoassay."
US Patent #5,494,798, Granted Feb. 27, 1996.

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3. Herr, J. C. 1977 Decidual cells in the human ovary at term: incidence and ultrastructure. American Association of Anatomists, 90th Annual Session, Detroit, Michigan. Anat. Rec. 187: p. 603.
4. Herr, John C. 1978 Decidual cells in the human ovary at term: freeze-fracture features. American Association of Anatomists, 91st Annual Session, Vancouver, B. C. Anat. Rec., 190: p. 421.
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28. Herr, J. C., R. S. McGee and D. J. Conklin 1986 Purification of seminal vesicle specific antigen by immunoaffinity chromatography on bound monoclonal antibody MHS-5. *International Symposium on Forensic Immunology*. June 25, 1986.
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150. Young-Hwan Kim, Buer Sen, Geeta Vanage, Arabinda Mandal, Michael J. Wolkowicz, Silvia Pulido, Kenneth Klotz, Zhonglin Hao, Charles J. Flickinger, and John C. Herr. 2004 Polymorphic CABYR Coding Region A (CR-A) abd Coding Region B (CR-B) are Expressed in Mouse Sperm and Localize to the Fibrous Sheath. Society for the Study of Reproduction 37th Annual Meeting, Vancouver, Canada. Biol. Reprod. 39:p252, #695
151. Zhonglin Hao, Bingfang Xu, Young-Hwan Kim, Laura Digilio, Silvia Pulido, Anne Westbrook, Mark Stoler, Pablo Visconti, Charles Flickinger, and John C. Herr. 2004 Gene Expression

- Studies of Two Members of the Mammalian Testis Specific Serine/Threonine Kinase Subfamily (TSSK2, TSSK4) and a Substrate (TSKS). Society for the Study of Reproduction 37th Annual Meeting, Vancouver, Canada. Biol. Reprod. 39:p186, #409.
152. Maria Herrero, Laura Digilio, Jennifer Monroe, John Herr, and Prabhakara Reddi. Functional Assays Demonstrate that the Mouse Acrosomal Protein SP-10 Plays a Role In Sperm-Zona Binding. 2004 Society for the Study of Reproduction 37th Annual Meeting, Vancouver, Canada. Biol. Reprod. 39:p 23, #52.
153. John C. Herr and Young-Hwan Kim 2004 Proteomics of Isolated Human Sperm Fibrous Sheath: Machinery of Glycolysis and a Novel Sperm Flagellar Energy Carrier Protein. The Future of Male Contraception Meeting, Seattle, WA. Sept. 29-Oct. 2, 2004.
154. John C. Herr, Kenneth L. Klotz, Stuart S. Howards, Christina Wang, Edward Leary, Kyung-ah Kim and Jemo Kang 2004 SpermCheck® Contraception: An Immunochromatographic Cassette for Monitoring Male Contraceptive Efficacy. The Future of Male Contraception Meeting, Seattle, WA. Sept. 29-Oct. 2, 2004.
155. Bingfang Xu, Zhonglin Hao, Craig Urekar, Kula N. Jha, Young-Hwan Kim, Laura Digilio, Geeta R. Vanage, Kenneth Klotz, Soumya Vemuganti, Anne Westbrook, Olga Chertihiin, Jagathpala Shetty, Michael Coppola, Pablo Visconti, Charles J. Flickinger, John C. Herr 2004. Validation of the TSSK Family of Male Contraceptive Targets. The Future of Male Contraception Meeting, Seattle, WA. Sept. 29-Oct. 2, 2004.
156. Bingfang Xu, Zhonglin Hao, Craig Urekar, Kula N. Jha, Young-Hwan Kim, Laura Digilio, Geeta R. Vanage, Kenneth Klotz, Soumya Vemuganti, Anne Westbrook, Olga Chertihiin, Jagathpala Shetty, Michael Coppola, Pablo Visconti, Charles J. Flickinger, John C. Herr 2004. Validation of TSKS as a Male Contraceptive Target. The Future of Male Contraception Meeting, Seattle, WA. Sept. 29-Oct. 2, 2004.
157. B. Xu, S.B. Sleight, M.J. Wolkowicz, S.M. Pulido, P. Anderson, P.D. Shoppee Bortz, L. Digilio, C.J. Flickinger, J.C. Herr. A Novel Flagella Putative Protease, SPRV1-2, Similar To Polycythemia Rubra Vera. XXVII North American Testis Workshop, Seattle , WA March 30-April 2, 2005.
158. YH Kim and JC Herr The Fibrous Sheath is a Compartment for Glycolysis. 25th Annual Meeting American Society Reproductive Immunology June 18, 2005 Am. J. Reprod. Immunol. 53, 6, 306 [ASRI05-78].
159. W He and JC Herr Identification and Cloning of the Dog Pad VI Gene Homologue. 25th Annual Meeting American Society Reproductive Immunology June 18, 2005 Am. J. Reproductive Immunology 53, 6, 303 [ASRI05-68].
160. J.C. Herr, K.L. Klotz, S.S. Howards, K. Kim, J. Kang. 2005 Sensitivity of an Immunochromatographic Cassette for Monitoring the Presence of Human Sperm. Fertility and Sterility 84: S170.

161. J. C. Herr, L. C. Digilio, K. N. Jha, O. I. Chertihin. 2005 MOEP19: A Novel Mouse Oocyte and Early Embryo Protein Associated with Cortex and Perivitelline Matrix is Phosphorylated in vitro by Casein Kinase II and Protein Kinase A. *Fertility and Sterility* 84: S380.

Invited Presentations at Universities, Federal Agencies, Corporations, and National Meetings

"Isolation of Sperm Surface Antigens," Developmental Biology Retreat, University of Washington, February 10, 1979, Lake Wilderness.

"Sperm Surface Antigens," E. M. Eddy and J. C. Herr, Gordon Research Conference on the Mammalian Genital Tract. July 7-11, 1980, Colby-Sawyer College, New London, NH.

"Dissection of the Mouse Sperm Surface Using Heterologous and Monoclonal Anti-sperm Antibodies," University of Minnesota, June 9, 1980.

"Molecular Dissection of the Mouse Sperm Surface with Monoclonal Antibodies," Bowman-Gray Medical School, February 1981.

"Human Hybridomas Constructed with Peripheral Blood Lymphocytes from Vasectomized Men" Joint Immunobiology Meeting. Harpers Ferry, W.Va., May 13, 1984.

"Monoclonal Antibodies - New Dimensions in Immunological Analysis" May 18, 1984, Eli Lilly Sponsored, St. Cloud, Minnesota Hospital Forum.

"Monoclonal Antibodies in Forensic Stain Characterization" FBI Academy, June 11, 1984.

"Monoclonal Antibodies to Seminal Fluid Specific Marker Protein MHS-5 and Serum Albumins" FBI Academy, Nov. 13-14, 1984.

"MHS-5 - a Monoclonal Antibody for Forensic Science" Endotronics, Minneapolis, Minnesota, May 17, 1985.

"Monoclonal Antibodies and Forensic Serology" Scotland Yard, London, England, August 19, 1985.

"ELISA Assay for Human Semen in Forensic Samples Employing Monoclonal Antibody MHS-5" FBI Headquarters, Washington, D.C. September 12, 1985.

"Monoclonal Antibody Based Assays for Identification of Human Blood and Semen" Workshop on Allotype Genetic Markers, American Academy of Forensic Sciences, New Orleans, February 14, 1986.

"A Monoclonal Antibody Probe for Rape Detection" Charlottesville, Rape Crisis Center, February 19, 1986.

"Monoclonal Antibody Probes for Detection of Semen and Identification of Blood" October 17, 1986
Food and Drug Administration, Silver Spring, Maryland, Office of Medical Devices.

"Monoclonal Antibody, MHS-5 - A New Probe for Sexual Assault Evidence", Department of Biology,
Virginia Commonwealth University, Richmond, VA. November 6, 1986.

"Monoclonal Antibody for Detection of Semen and Identification of Blood". Crime Lab Directors, FBI
Academy, Quantico, VA, November 13, 1986.

"Application of Anatomy and Immunology in Criminology" Forum in Anatomy, May 11, 1987.
American Association of Anatomy, Washington, D.C. Annual Meeting.

"Seminal Vesicle Specific Antigen" October 8, 1987 University of New Mexico, Albuquerque, NM.

"Monoclonal Antibodies to Cervical Mucus, Sperm Surface and Seminal Fluid". FBI Academy,
Quantico, VA. February 11, 1988.

"Update on Human Decidual Secretion and Differentiation Antigens of Human Spermatogenesis".
Genentech, Inc., South San Francisco, CA. February 19, 1988.

"Novel Antigens Involved in Human Semen Liquefaction and Spermatogenesis". University of Iowa,
Iowa City, IA. February 26, 1988.

"Monoclonal Antibody Probe for Novel Seminal Vesicle Specific Marker - New Diagnostic for
Rape Detection". Igen, Inc., Rockville, MD. March 7, 1988.

"Overview of FBI Contract Research at the University of Virginia". Invited Speaker for FSOPC
Committee, May 3, 1988, FBI Academy.

"Human Sperm Surface and Acrosomal Antigens Probed with Murine Monoclonal Antibodies".
Invited Symposium Speaker, Symposium on Sperm Antigens in Reproduction, Am.
Assoc. for Immunol. of Reproduction, Portland, ME. June 17, 1988.

"Biochemical, Morphological and Genetic Characterization of SP-10 an Intra-Acrosomal Human
Sperm Protein" The Population Council, The Rockefeller Univ., New York, N.Y. March 16,
1989.

"Molecular Biology of Human Spermatogenesis - Characterization of the intra-acrosomal
antigen SP-10." Dept. Anatomy, University of Iowa, May 26, 1989.

"Molecular Biology of Human Spermatogenesis - Characterization of the intra-acrosomal antigen SP-
10 and its encoding gene." Dept. Anatomy, Univ. of Wisconsin-Madison, May 30, 1989.

"The Intra-acrosomal antigen SP-10" 4th International Congress of Reproductive Immunology,
Kiel, Germany, July, 1989.

"Contraceptive Vaccine Candidate SP-10" Ortho Pharmaceuticals, Raritan, NJ, August 11, 1989.

"A Marker for Sperm Heads in Sexual Assault Evidence". Lifecodes Corp, Valhalla, NY, August 22, 1989.

"Monoclonal Antibody MHS-10 and its Cognate Antigen SP-10" CONRAD Symposium of Immunocontraception, Bariloche, Argentina, November, 1989.

"Biochemical and Morphological Characterization of SP-10" National Institute of Immunology, New Delhi, India, March 14, 1990

"Biochemical and Morphological Characterization of the Intra-acrosomal antigen SP-10" May 11. 1990 National Institute of Environmental Health Sciences, Research Triangle, N.C.

"A Differentiation Antigen of Human Spermatogenesis" Gordon Research Conference, Mammalian Genital Tract, Wolfboro, NH July 11, 1990.

"Development of A Sperm Based Contraceptive Vaccine" Food and Drug Administration, Rockville, MD, Jan 29, 1991.

"Contraceptive Vaccine Candidate SP-10 Associated with Human Sperm Acrosomal Membranes" American Association for the Advancement of Science, Washington, D.C., Feb 15, 1991.

"Biochemical, Morphological and Immunogenicity Studies of a Sperm Based Contraceptive Vaccine for Women" Louisiana State University, New Orleans, LA. March 18, 1991.

"Organization and Direction of the Center for Recombinant Gamete Contraceptive Vaccinogens" National Institutes of Health, Lister Hall, Washington, D.C., Feb. 27, 1992.

"Intra-Acrosomal Contraceptive Vaccine Immunogen SP-10 in Man, Macaque and Baboon" Serono Symposium, Beaverton, OR. May 31, 1992.

"Update on Sperm Antigen SP-10" 20th Anniversary Symposium of World Health Organization Special Program of Research, Development and Research Training in Human Reproduction. Moscow, Russia, June 17, 1992.

"Cell and Molecular Biology of the Intra-acrosomal Antigen SP-10" Gordon Conference on Mammalian Genital Tract, Plymouth State College, Plymouth, NH, July 9, 1992.

"Antibodies to Sperm Protein SP-10 in Infertile Couples; The Expression of Pure Recombinant SP-10 to Serve as Assay Target" U.S.A.I.D. Contraceptive Development and Research Initiative Working Group. Washington, DC, September 17, 1992.

"Updates in Immunocontraception" Armed Forces District American College of Obstetrics and Gynecology, November 2, 1992, Norfolk, VA.

"Molecular Approaches to Gamete Surface Antigens" December 2, 1992, Calcutta, India.

"Biochemical, Morphological and Genetic Characterization of the Intra-Acrosomal Antigen SP-10"
December 4, 1992, Institute of Chemical Biology, Calcutta, India.

"Immunogenicity of Recombinant SP-10 in Female Baboons" December 9, 1992, Symposium on
Recombinant and Synthetic Vaccines, Delhi, India.

"Biochemical, Morphological, and Genetic Characterization of the Intra-Acrosomal Sperm Protein SP-
10: A Human Contraceptive Vaccine Candidate Currently Undergoing Testing in Baboons"
March 4, 1993, Oregon Regional Primate Research Center, Beaverton, OR.

"Sperm Surface Antigens as Targets for Immunocontraception" April 17, 1993, 18th Annual Meeting
American Society of Andrology, Tampa, FL.

"Biochemical, Morphological and Genetic Characterization of Intra-Acrosomal Protein SP-10" May
11, 1993, Department of Cell Biology and Anatomy, University of North Carolina, Chapel Hill,
NC.

"Prospects for Contraceptive Vaccines Based on Sperm-Surface Immunogens: May 18, 1993, Grand
Rounds Department Obstetrics and Gynecology, Oregon Health Sciences University, Portland,
OR.

"Intra-Acrosomal Protein SP-10: A Contraceptive Vaccine Candidate" May 24, 1993. Reproductive
Immunology Mini-Symposium, American Association for Immunology, Denver, CO.

"Immunologic Aspects and Potentials in Contraception" June 5, 1993, Thornton Conference, Omni
Hotel, Charlottesville, VA.

"Immunogenicity of SP-10 Fusion Proteins in Female Baboons" June 18, 1993, Sixth Annual Mid-
Atlantic Reproductive Biology Meeting, Johns Hopkins University, Baltimore, MD.

"The Immunobiological Effects of Vasectomy and Vasovasostomy in the Rat Model" August 29, 1993,
Serona Symposium on Immunobiology of Reproduction, Boston, MA.

"Results of Baboon Immunogenicity Trials Comparing GT-SP-10 Fusion Protein from pGEX with SP-
10 Produced in pET" October 29, 1993, NIH Contraceptive Development Centers Annual
Meeting, Wintergreen, VA.

"Update on Contraceptive Vaccine Immunogen - SP-10" December 11, 1993, Japanese Society
for Reproductive Immunology, Nara, Japan.

"Microheterogeneity of the Intra-acrosomal Protein SP-10 is due to Alternative Splicing and
Proteolytic Processing" February 9, 1994, Boden Conference, Thredbo, Australia.

"Sperm Specific Intra-Acrosomal Antigen SP-10" May 12, 1994; Endocrinology and Reproductive
Biology Seminar Series, The Population Council, The Rockefeller University, New York, NY.

"cDNA Cloning in Progress: Sperm Antigens Recognized by Auto and Iso Anti-Sperm Antibodies"
June 3, 1994, Seventh Mid-Atlantic Reproductive Biology Meeting, Georgetown University,
Washington, DC.

"Candidate Vaccinogens for a Sperm Based Immunocontraceptive" September 30, 1994, Zonagen, Inc.,
Woodlands, TX

"Overview of Contraceptive Vaccine Development in the Center for Recombinant Gamete
Contraceptive Vaccinogens" December 8, 1994, Institute of Medicine, National Academy of
Science, Washington, DC

"Human Sperm Surface Proteins as Contraceptive Vaccinogens" May 2, 1995, Department of Anatomy
and Cell Biology, University of Iowa

"Biochemical, Morphological and Genetic Characterization of the Intra-Acrosomal Protein SP-10, a
Contraceptive Vaccine Candidate" May 4, 1995, Seminar Series in Cell Biology,
Developmental Biology and Neuroscience, University of Kansas, Kansas City

"A Tale of Sperm, Sperm Antigens and Infertility" May 5, 1995, Medical Histology and Cell Biology,
University of Kansas Medical School

"Advances in Immunocontraception," June 5, 1995, National Advisory Committee on Child Health and
Human Development, National Academy of Sciences, Washington, D.C.

"Immunizing with Sperm Antigens to Prevent Fertilization," July 8, 1995, SSR Workshop on the
Immunology of Implantation, Davis, California.

"The Use of Acrosomal Antigens as Contraceptive Immunogens: Studies on the Intra-acrosomal
Antigen SP-10," International Symposium on the Human Sperm Acrosome Reaction,
September 9, 1995, Collioure, France

"Recent Advances on the Path to a Contraceptive Vaccine," 15th World Congress on Fertility and
Sterility, September 20, 1995, Montpelier, France

"Morphological, Biochemical, and Genetic Characterization of the Intra-acrosomal Protein SP-10,"
December 5, 1995, Department Zoology, Ain Shams University, Cairo, Egypt.

"The Biotechnology of Contraceptive Vaccine Development," December 9, 1995, Ain Shams
University, Cairo, Egypt.

"The Path to Contraceptive Vaccine Development," December 11, 1995, Al-Azhar University, Cairo,
Egypt.

"Development of a Home-Sperm-Test," February 2, 1996, Chefaro, Oss, The Netherlands.

"Strategies in the Development of a Sperm Based Contraceptive Vaccine," February 3, 1996, Organon, N.V., Oss, The Netherlands.

"Steps on the Pathway to a Contraceptive Vaccine," March 22, 1996, Finnish Andrology Society Plenary Lecture, Turku, Finland.

"The Development of Sperm Antigen Based Contraceptive Vaccines," March 25, 1996, Leiras, N.V. Turku, Finland.

"Sperm Antigens in Infertility and Contraception," June 1, 1996, Clinical Immunology Society, New Orleans, LA.

"Contraceptive Vaccine Development," October 11, 1996, Food and Drug Administration, Rockville, MD.

"The Two Cultures: The Language of Science and the Language of Venture Capital, Refining Scientific Ideas for the Venture Community," Conference on Opportunities for Industrial Collaboration in Contraceptive Research, Family Health International, November 7, 1996, Durham, NC.

"Multidisciplinary Training in Contraceptive Vaccine Development for Indian Postdocs," May 20, 1997, Advisory Board Fogarty International Center, National Institutes of Health, Washington, DC.

"Strategies for the Development of a Sperm Antigen Based Contraceptive Vaccine," June 24, 1997, European Society of Human Reproduction and Embryology, Edinburgh, Scotland.

"Discovery and Characterization of Sperm Contraceptive Vaccinogens," July 8, 1997, Vaccines Beyond 2000, Gold Coast, Queensland, Australia.

"Strategies for Identification of Cell Surface Vaccinogens," September 30, 1997, First International Conference on Experimental and Clinical Reproductive Immunobiology, Charlottesville, VA.

"A Strategy for Identification of Sperm Surface Vaccinogens," November 16, 1997, NIH Joint Centers' Meeting, Davis, CA.

"Contraceptive Products Under Development in the Center for Recombinant Gamete Contraceptive Vaccinogens," January 8, 1998, presented to NIH Advisory Council on Contraceptive Clinical Network.

"Home Sperm Test" Virginia Biotechnology Association, Richmond, VA. Biotechnology Park, March 23, 1998.

"A Strategy for Identification and Cloning of Novel Sperm Surface Immunogens" Guest Symposium of Amer. Assoc. Immunologists, San Francisco, Calif. April 19, 1998.

“A Strategy for Identification of Sperm Immunogenes Relevant to Infertility”. Symposium on Clinical Implications in Reproductive Biology, Woods Hole, Mass, June 10, 1998.

“Identification of Sperm Specific-Marker Proteins for use in Sperm Detection and Quantification.” Virginia Tech Biotechnology Center, Blacksburg, VA. April 23, 1999.

“Preparations for a Human Trial on LDHC-4: TT Chimeric Peptide Vaccine: Rationale for Trial and Response of FDA to IND” Schering AG, Berlin, FRG. May 27, 1999

“Oolemma Vaccine Development: Oolemma Proteomics” Schering AG, Berlin FRG May 28, 1999.

“An Immunochromotographic Card for Detecting and Quantifying Sperm”, Frontiers in Reproduction, Marine Biological Laboratories, Woods Hole, MASS. June 10, 1999

“2-D Sperm Proteomics” Frontiers in Reproduction, Marine Biological Laboratories, Woods Hole, MA. June 11, 1999

“Progress in Developing an Immunochromatographic Device for Sperm Detection” Association of Medical Laboratory Immunologists, Bethesda, MD. July 10, 1999

“Cooperative International Research and Capacity Building in Reproduction and Contraception” Workshop on Global Research on Women and Children’s Health, NICHD, Bethesda, MD. September 14, 1999

“Design of the Home Sperm Test” Workshop on Improving Acceptability Research, NICHD, Bethesda, MD. October 25, 1999.

“Assorted Arcana of Sperm Cytoarchitecture” University of Pennsylvania, Center for Research on Reproduction and Women’s Health. October 27, 1999.

“Sperm Binding Magnetic Bead Employing Sperm Agglutination Antigen 1 [SAGA-1]” Future Directions Session, Fifth Annual CODIS User’s Group Meeting, US Department of Justice, Federal Bureau of Investigation, Arlington, VA. November 19, 1999.

“Sperm Binding Magnetic Bead Employing Sperm Agglutination Antigen 1 [SAGA-1]” Cellmark, a division of Astra Zeneca, Oxford, England. November 22, 1999.

“RASA: A Recombinant Anti-Sperm Antibody Directed Against the Sperm Glycoform of CD52”. “Pre-Clinical Topical Microbiocides Workshop” NIH, Bethesda, MD. January 13, 2000.

“Overview of the Program: The Contraceptive Vaccine Search for Testis Specific Genes and Proteins Opens Other Contraceptive Leads” Schering AG, Berlin, FRG. January 26-28, 2000.

“Calcium binding to CBP86, a novel testis-specific calcium-binding protein localized in the principal piece of human sperm, is regulated by phosphorylation during capacitation” Schering AG, Berlin, FRG. January 26-28, 2000.

“Update on the LDH-C4 Contraceptive Vaccine IND” Schering AG, Berlin, FRG. January 26-28, 2000.

“A Sperm Binding Bead for Forensic-DNA Analysis” Schering AG, Berlin, FRG, January 26-28, 2000.

“New Approaches to Contraception” Executive Council Planned Parenthood of the Blue Ridge, October 2, 2000.

“CBP86, a novel testis-specific calcium binding protein localized in the tail of human sperm undergoes phosphorylation and oligomerization during capacitation” International Congress on Fertilization, Embryo Development and Implantation. New Delhi, India, November 6, 2000.

“Discovery Driven Translational Research in Sperm Proteomics and Genomics” Department of Molecular Reproduction, Development and Genetics, and the Department of Biochemistry, Indian Institute of Science, Bangalore, India, November 10, 2000.

“Sperm Proteomics and the Discovery of Contraceptive Targets” Schering AG, Berlin, Germany, November 14, 2000

“Span-X as a Cancer-Testis Marker” Schering AG, Berlin, Germany, November 14, 2000

“Proteomic Approaches to Identifying Contraceptive Targets” Second International Conference on Experimental and Clinical Reproductive Immunobiology, Amsterdam, The Netherlands, November 16, 2000.

“From Basic Sperm Biology to Commercialization of a Diagnostic Device: Biotechnology Underlying Sperm Check I, an Immunochromatographic Card for Detecting Low Numbers of Sperm” The Burroughs Welcome Lecture, University of Guelph, Ontario, January 30, 2001.

“Commercializing Academic Research Through Startup Companies” University of Guelph’s Business Development Office, January 30, 2001.

“The Development of Recombinant Miniantibodies as Targeting Vectors: Sperm Aggulutination Antigen 1: Looking Toward a New Generation of Spermicidal Agents” Department Biomedical Sciences, University of Guelph, Ontario, January 31, 2001.

“Proteomics: Discovery of Contraceptive Vaccines in the Post-Genomic Era.” Department of Biomedical Sciences, University of Guelph, Ontario, February 1, 2001.

“Discovery of a Unique Sperm Surface Molecule - SAGA-1, and its use in Forensic Science” Randolph-Macon College, April 7, 2001.

“A Multi-Determinant Contraceptive Vaccine Based Upon Testis-Specific Human Sperm Head Antigens: Immunogenicity and Efficacy Trials in Monkeys” Schering, AG, May 8, 2001.

“Sperm Cell Selection System for Forensic DNA Analysis of Male Component” National Institute of Justice, Washington, D.C., June 7, 2001.

“Sperm Proteomics and the Discovery of Testis-Specific Contraceptive Targets” American Society for Immunology of Reproduction 21st Annual Meeting, Chicago, IL, June 10, 2001.

“Sperm Proteomics and the Discovery of Testis-Specific Contraceptive Targets” Frontiers in Reproduction Symposium, Cambridge, MA, June 30, 2001.

“Sperm Proteomics and the Discovery of Testis-Specific Contraceptive Targets” VIII Congress of the International Society of Reproductive Immunology, Opatia, Croatia, July 6, 2001.

“Sperm Proteomics and the Discovery of Testis-Specific Contraceptive Targets” The Ludwig Institute, New York, N.Y. December 4, 2001.

“Sperm Proteomics and the Discovery of Contraceptive Targets” Dept. Anatomy and Cell Biology, Univ. of Iowa, May 30, 2002.

“Sperm Proteomics and the Discovery of Targets for Contraception and Cancer” Plenary Session, XX11nd Annual Meeting American Society of Reproductive Immunology. Chicago, Ill. June 6, 2002.

“The Biotechnology Underlying Sperm Immunodiagnostics” National Institute of Health John F. Fogarty International Center, Washington, D.C., June 11, 2002.

“Sperm Cell Selection System for Forensic DNA analysis of the Male Component” Third Annual DNA Grantees Conference, National Institute of Justice, Washington, D.C., June 24, 2002.

“Defining the Sperm Proteome” Gordon Research Conference on Gametogenesis and Embryogenesis. Connecticut College, July 4, 2002.

“Contraceptive Vaccines and Spermistatic Mini-antibodies Targeting Sperm Surface Sugars” 2nd Annual Advances in Contraceptive Health Symposium” Boston, MA., July 20, 2002.

“The Sperm Check Immunodiagnostic” Princeton Bio Medi Tech, Princeton, N.J., September 17, 2002.

“A Case Study in the Transfer of University Intellectual Property to a Biotechnology Start-up” General Assembly Building, Joint Commission on Technology and Science, Richmond, VA, September 25, 2002.

“Specification of an Equitorial Segment Domain During Early Acrosomal Biogenesis—A Susceptible Biological Process For Targeting A Male Contraceptive?” Schering AG, Berlin, Germany, December 6, 2002.

“Equitorial Segment Protein and Acrosomal Biogenesis”, Dept. of Biochemistry, Albert Einstein College of Medicine, Yeshiva University, Bronx, NY., May 6, 2003.

“Immunogenicity of a pentavalent recombinant subunit anti-acrosomal vaccine in monkeys.” Hippokration Congress on Reproductive Immunology, June 4, 2003, Rhodes, Greece.

“Novel Acrosomal Matrix Proteins ESP and SAMP 14: Roles in fertilization and Acrosome Biogenesis.” Georgetown University, Dept. of Cell Biology, June 12, 2003.

“Sperm Cell Selection System for Forensic DNA Analysis of the Male Component” Fourth Annual DNA Grantees Workshop, Natl. Institute of Justice, Washington, DC. June 25, 2003.

“The Biotechnology Underlying Sperm Immunodiagnosis” Syntron Bio Research Inc., Carlsbad, CA, July 2, 2003

“Proteomics and the Discovery of Contraceptive Drug and Vaccine Targets” Institute of Medicine, National Academy of Sciences, New Frontiers in Contraceptive Research International Symposium, Washington, DC. July 15, 2003.

“ContraVac: Anatomy of a start-up” Emerging Technology Partners, Rockville, MD Sept. 25, 2003

“Mining the Sperm Proteome for Contraceptive Targets” Indo-US Workshop on Male Contraceptive Research and the Role of Men in Reproductive Health. Oct. 20, 2003, National Institute of Immunology, New Delhi, India.

“Mining the Sperm Proteome for Uncharted Regions of the Human Genome” Center for Cell and Molecular Biology, October 24, 2003 Hyderabad, India.

“Mining the Sperm Proteome for Uncharted Regions of the Human Genome” Center for Research in Reproductive Health, October 27, 2003 Mumbai, India.

“ePAD, an Egg Specific Peptidyl Arginine De-iminase is the Most Abundant Protein in the Ovulated Mammalian Egg and Represents a New Contraceptive Target” Center for Research in Reproductive Health, October 28, 2003 Mumbai, India.

“Patterns of SPAN-X Gene Expression in Human Spermiogenesis, Melanomas and During the Cell Cycle” Laboratory of Biosystems & Cancer, Center for Cancer Research, National Cancer Institute, Bethesda, MD. December 2, 2003

“Rapid Tests for Post Vasectomy Sperm Testing” Expert Consultation on Vasectomy, Family Health International/Engender Health, Washington DC, December 3, 2003

“Opportunities for Collaboration: Acceptability and Utilization of Rapid Tests for Sperm Detection” Joint Maternal and Child Health and Population and Health Centers Network Meeting, NIH Fogarty International Centers, Washington, DC, December 5, 2003

“Update of Human ePAD Intellectual Property Issues” Schering AG, Berlin, Germany December 8, 2003

“Update on Performance of Rapid Tests for Sperm Detection” Schering AG, Berlin, Germany, December 8, 2003

“Patterns of SPAN-X Gene Expression in Human Spermiogenesis, Melanomas and During the Cell Cycle” Schering, AG, Berlin, Germany December 8, 2003

“Intelligent Spermicides: Spermistatic Bivalent Mini-antibodies Targeting Sperm Surface Sugars” Schering AG, Berlin Germany December 9, 2003

“Diagnostic and Therapeutic Products Emerging from the Human Sperm Proteome.” Jan. 14, 2004 Repromedix Inc. Boston, Mass.

“Mining the Sperm Proteome for Uncharted Regions of the Human Genome.” Dept. of Biomedical Sciences , College of Veterinary Medicine, Cornell University, Ithaca, N.Y. Feb. 3, 2004

“ContraVac: Technology Transfer and Alternative Careers” Johnson School of Management and the Physiology Graduate Student Club, Cornell University, Ithaca, N.Y. Feb. 3, 2004

“ContraVac: Products, People, and Purpose”. Piedmont Angel Network, Greensboro, N.C. March 9, 2004

“Mining the Sperm Proteome for Uncharted Regions of the Human Genome” The Raymond O. Berry Memorial Lecture, Dept. Reproductive Physiology, Texas A&M University, April 2, 2004

“The Technology Underlying Sperm Check” Carilion Biomedical Institute, Ronoake, VA April 8, 2004

“Mining the Sperm Proteome for Uncharted Regions of the Human Genome” FASEB Symposium Control Mechanisms in Mol. Reproduction, April 21, 2004, Washington, DC

“Mining the Sperm Proteome for Uncharted Regions of the Human Genome”. Dept. Pharmacology, Rush University, Medical Center, Chicago, May 12, 2004

“Interdisciplinary Postdoctoral Training in Reproductive Biology and Contraceptive Development for Asian Fellows: The Evolving Experiment”. Fogarty International Center, NIH campus, Washington, DC, May 17, 2004.

“Reproductive Biology and Physiology Relevant to Urology”. American Urological Association, June 7, 2004. Basic Sciences for Urology residents Course.

“Proteomics and the Discovery of Companion Animal Contraceptive Drug and Vaccine Targets in the Sperm and Egg”. Alliance for Contraception in Cats and Dogs, Breckenridge, Colorado. June 27, 2004

“SpermPaints: Fluorescent Monoclonal Antibody Probes for Sperm Identification”. 5th Annual DNA Grantees Workshop, National Institute of Justice, Washington, DC, June 29, 2004.

“ContraVac: Anatomy of a Start-up”, Center for Innovative Technology, SBIR Phase II Competition, Washington, DC September 15, 2004.

“Proteomics of Isolated Human Sperm Fibrous Sheath: Machinery of Glycolysis and a Novel Sperm Flagellar Energy Carrier Protein” The Future of Male Contraception, Seattle, WA, October 1, 2004.

“SpermCheck® Contraception: An Immunochromatographic Cassette for Monitoring Male Contraceptive Efficacy.” Virginia’s 10th Annual SBIR Conference, Crystal City, VA, October 13-14, 2004.

“The Role Equatorial Segment Protein in Acrosome Biogenesis” IX International Congress of Reproductive Immunology. Hakone, Japan, October 15, 2004

“SpermPaints and Compliance Testing” Schering Video Conference, December 18, 2004.

“The Role Equatorial Segment Protein in Acrosome Biogenesis.” Invited Speaker, Advances and Challenges in Reproductive Health in the PostGenomic Era, Mumbai, India, Jan 13, 2005.

“SpermPaints: Genomics and Proteomics of Sperm Differentiation Biomarkers” Invited Speaker: Bode Technologies Group, Springfield, VA. March 9, 2005

“Equatorial Segment Protein and Acrosome Biogenesis” Invited Speaker: Cell Biology of Fertilization, American Society of Andrology, April 4, 2005. Seattle, WA.

“Reproductive Biology and Physiology Relevant to Urology”. American Urological Association, June 6, 2005. Basic Sciences for Urology Residents Course.

“Proteomics of Isolated Human Fibrous Sheath: Machinery of Glycolysis and a Novel Ssperm Flagellar Energy Carrier Protein” Invited Speaker: 25th Annual Meeting of the American Society of Reproductive Immunology, Providence, RI, June 17, 2005

“SpermPaints: Fluorescent Monoclonal Antibody Proves to Sperm Differentiation Antigens-Application in Sexual Assault Analysis” Invited Speaker: Sixth Annual DNA Grantees Workshop, US Department of Justice, National Institute of Justice, Washington, DC, June 27, 2005

“Update on the SPAN-XA/D Genes: Role in Human Spermiogenesis” Invited Speaker: National Cancer Institute, Laboratory for Biosystems and Cancer, NIH Campus, Washington, DC, July 28, 2005.

“Fruits of Indo-US Collaboration Between NII-UVA. AIM: To Identify AKAP-3 Interacting Proteins” NIH Indo-US Program on Contraception and Reproductive Health, Rockville, MD. August 22, 2005.

“25 Years After Passage Has the Promise of the Bahy-Dole Act Been Fulfilled?” NIH Indo-US Program on Contraception and Reproductive Health, Rockville, MD. August 24, 2005.

“The SpermPaint Probes for Sexual Assault Analyses” Nassau County District Attorney, Minneola, NY October 10, 2005.

"Analysis of Sexual Assault Smears in the Theresa Fusco Murder", Nassau County District Attorney, Minneola, NY November 1, 2005.

"A Role for the Equatorial Segment in Acrosome Morphogenesis" The Feinstein Institute for Medical Research, North Shore Long Island Jewish Health System, Manhasset, NY November 8, 2005.

Seminars Presented at UVA

"Dissection of the Mouse Sperm Surface with Heterologous Antiserum and Monoclonal Isoantibodies", Internal Medicine, Immunology Conference Group, March 31, 1982.

"Sperm Cell Surfaces," Cell Biology Colloquium, Fall 1981.

"Monoclonal Antibodies to the Mouse Sperm Surface," Immunology Council Faculty Seminar, June 22, 1982.

"Human Hybridomas," Hybridoma Research Group (R.L. Rhebun), November 9, 1983.

"Human Hybridomas Constructed Post Vasectomy," Anatomy - April 1984.

"Monoclonal Antibodies for Use in Analysis of Sexual Assault Evidence". December 5, 1984. Immunology Conference Group.

"Monoclonal Antibodies for Sexual Assault Analysis". Department of Biochemistry, March 21, 1985.

"A Novel Sperm Coating Antigen Originating in the Seminal Vesicle" February 1985. Reproductive Sciences.

"Monoclonal Antibodies: Careers in Biotechnology" April 19, 1985. Biology Association, Gilmer Hall.

"Patenting of Hybridomas for Forensic Markers" November 2, 1985. Board of Directors, University of Virginia Patents Foundation.

"Seminal Vesicle Specific Monoclonal Antibody: A Novel Rape Detection Probe" November 20, 1985. Immunology Conference Group.

"Monoclonal Antibodies in Forensic Detection" September 18, 1987 Clinical Pharmacology/ Toxicology Interdisciplinary Conference; Department of Pathology.

"Monoclonal Antibodies-Strategies and Applications to the Development of a Contraceptive Vaccine" September 22, 1987 Infectious Disease Lecture in Basic Science.

"New Forensic Methods for Identifying Collectable Evidence" October 20, 1987 American Society for Industrial Security (Blue Ridge Chapter).

"A Novel Antigen Within the Human Sperm Acrosome: A Potential Contraceptive Vaccine Immunogen" Dept. Anat. Cell Biol. April 20, 1989.

"Molecular Biology of Human Spermatogenesis" Dept. Rheumatology - June 28, 1989.

"Biochemical and Immunogenicity Studies of a Recombinant Human Sperm Contraceptive Vaccine" December 5, 1990; Immunology Conference Group

"SP-10: A Recombinant Sperm Immunogen in Contraceptive Vaccine Development", Feb. 4, 1992, Department of Pathology

"Restricted Domains of Sperm Antigens Recognized by Monoclonal Antibodies" February 26, 1992, Immunology Conference Group

"Mission of the Contraceptive Vaccine Center" March 28, 1992, University of Virginia Board of Visitors

"Dissecting the Sperm Surface: Applications for Contraception" June 30, 1992, Summer Research Internship Program (MARC/MAAP)

"Sperm Surface Molecules as Contraceptive Vaccine Components" November 17, 1992, Sigma Xi Luncheon Seminar Series, Minor Hall

"Immunologic Aspects and Potentials in Contraception" June 5, 1993, The W. Norman Thornton, Jr. Symposium

"Dissecting the Sperm Surface: Applications for Contraception" July 13, 1993, Summer Research Internship Program (MARC/MAAP)

"Contraceptive Vaccines", July 18, 1994, Summer Research Internship Program (MARC/MAAP)

"Technology Transfer: Are Monoclonal Antibodies to the Sperm Antigen Useful for a Commercial Sperm Diagnostic?" November 20, 1994, Immunology Conference Group

"Steps on the Pathway to Developing a Contraceptive Vaccine", May 15, 1995, American Gynecological Club, Department Ob/Gyn

"Dissecting the Human Sperm Surface: Application for Contraceptive Vaccine Development," June 20, 1995, Medical Academic Advancement Program.

"Keeping It At Home: The Anatomy of a Start Up," Jan. 20, 1996, Faculty Retreat, The Greenbrier, West Virginia.

"Translational Research Panel," Nov. 15, 1996, Dept. Biomedical Engineering

"The Quest for a Contraceptive Vaccine," Jan. 24, 1997, Medical Alumni Council

"The Quest for a Contraceptive Vaccine: Bridging Basic and Applied Science," Feb. 12, 1997,
Medical Center Hour

"ContraVac: Anatomy of a Start Up," April 19, 1997, The Acadapreneures Forum, The Darden
School

"Strategies in the Development of a Sperm Antigen Based Contraceptive Vaccine," July 16,
1997, Medical Academic Enhancement Program.

"Technology Transfer in Progress at the University of Virginia," October 29, 1997, Dept.
Mechanical, Aerospace and Nuclear Engineering.

"Forbidden Knowledge," November 19, 1997, Medical Center Hour.

"Fruits of Leadership in Research- Contraceptive Vaccine Development" Jan. 20, 1998, UVA Medical
Alumni Advisory Meeting, Pentagon City, Virginia.

"Translating Basic Discoveries Into Useful Products within Academe" Cardiology Grand Rounds, May
5, 1998

"The Home Sperm Test" SRIP Luncheon, June 19, 1998.

"The Quest for a Contraceptive Vaccine" Blue Ridge Chapter of Planned Parenthood. October 12,
1998

"Strategies for Identification of Novel Sperm Surface Proteins" Center for Research in Reproduction
Enrichment Program Seminar. December 3, 1998

"The Science and Clinical Uses of Spermcheck: An Immunodiagnostic for Detecting and Measuring
Sperm" Molecular Medicine Rounds. May 25, 1999

"Oolemma Proteomics: Egg Surface Antigens Important for Fertilization and Contraception"
Infectious Disease Faculty Research Forum. September 8, 1999

"Structure of a University Based Biotechnology Company" 2nd Conference on the Development of
Technology in Medicine in Virginia, Omni Hotel, Sponsor; Dept. Biomedical Engineering.
November 1, 1999

"The Biotechnology Underlying Sperm Immunodiagnostics" Piedmont Virginia Community College's
Introduction to Biotechnology Class-Biotechnology Center, 327 W. Main Street,
Charlottesville, VA. November 16, 1999, April 5, 2000

"Molecular Events Associated with Human Sperm Capacitation: Oligomerization and Phosphorylation
of Calcium Binding Protein 86 [CBP86]" Cell Biology Retreat, September 16, 2000

"Sperm Proteomics" Biotechnology Training Program, October 23, 2000

“Discovery Driven Translational Research in Sperm Proteomics and Genomics: Venturing Beyond the Breakers when the Wind is Strong. Bernie B. Carter Center for Immunology Research, October 25, 2000.

“The Biotechnology Underlying SpermCheck: From Idea to Product” Symposium on Patents and Intellectual Property, Jordan Hall Conference Center, February 6, 2001.

“Sperm Proteomics and the Discovery of Targets for Contraceptive” Wintergreen, Immunology Retreat, June 1, 2001.

“Issues in Intellectual Property Management” Molecular Medicine Round Table, May 1, 2002.

“Innovation and Entrepreneurship” Molecular Medicine Round Table, November 14, 2002.

“Intra-cytoplasmic Sperm Injection [ICSI]: A Grand Experiment in Reverse Eugenics” Critical Human Survival Issue, Foruming Dept. of Anthropology [UNK-45-1]. November 14, 2002.

“Specification of an Equatorial Segment Domain During Early Acrosomal Biogenesis and Insights into the Ancestral Gene Program of Spermiogenesis”, Dept. of Biochemistry, November 21, 2002.

“Acadapreneurship: Combining the Academic and the Entrepreneurial, A Case Study in the Transfer of University Intellectual Property to a Biotechnology Start-up.” Alternative Careers in Science Symposium, Feb. 26, 2003 sponsored by: The Beirne B. Carter Center for Immunology R, The Cardiovascular Research Center, and the Graduate Programs Office – School of Medicine.

“The Roots of Acadapreneurship: Discovery, Invention, and Innovation” Workshop on Relations with Industry, March 10, 2003, Research Week, Undergraduate Research Network.

“Equatorial Segment Protein and Acrosome Biogenesis” MARC Program, June 26, 2003.

“The Biotechnology Underlying Immunodiagnostics for Sperm.” Aug. 4, 2003 Center for Innovative Technology.

“The Biotechnology Underlying Sperm Check®” Sept. 15, 2003 Virginia National Bank.

“Mining the Sperm Proteome for Uncharted Regions of the Human Genome.” Sept. 24, 2003 Dept. of Pathology

“Anatomy of a U.VA Biotechnology Start-Up”, December 18, 2003. Carillion BioMedical Institute, Site Visit

“SpermPaints for Forensic Science”, The John Steve Catilo Memorial Lecture, Univ. of Virginia, October 30, 2004.

“Testis-Specific Biomarkers of Sperm: The Story Behind SpermCheck and SpermPaints” November 6, 2004 83rd Annual Meeting of the Clinical Society of Genitourinary Surgeons, Department of Urology

“SpermPaints: Fluorescent Monoclonal Antibody Probes to Sperm Differentiation Antigens—Applications in Sexual Assault Analysis and Post-Coital Testing” Urology Conference, November 10, 2004.

“Cancer-Testis Antigens, The SPAN-X Gene in Human Spermiogenesis, HPCX, TGCT1, Melanomas and the Cell Cycle.” Urology Conference, February 16, 2005.

“Cancer-Testis Antigens, The SPAN-X Gene in Human Spermiogenesis, HPCX, TGCT1, Melanomas and the Cell Cycle.” Human Cancer Immunotherapy Conference, Feb 22, 2005

Research Activities Related to University-Industrial Relationships [Translational Research]

Endotronics In 1983 Dr. Herr established a cooperating venture between the University of Virginia and Endotronics, Inc. of Minneapolis, Minn. This resulted in a donation of a \$130,000 Acusyst 1501 instrument and a Mini Micro Chamber device to the University. These systems are perfusion devices for cell culture, esp. of hybridomas. The instruments are currently housed in the Chemical Engineering Department.

Flow Labs: Flow Labs donated a Cell Raiser bioreactor (\$23,000) to Dr. Herr's lab.

Humagen Fertility Diagnostics: this company, founded by Dr. Herr in 1985, is located in Charlottesville, VA, and manufactures the Penetrak assay, a measure of sperm penetration in cervical mucus for Serono Diagnostics. In addition, the company manufactures pipets for IVF and licenses UVA patents held by the University of Virginia Patents Foundation on forensic assays for rape and blood detection. Dr. Herr worked closely with then Governor Charles Robb's Office of Economic Development to consolidate the venture capital for this enterprise and served as the Chairman of the Humagen Scientific Advisory Board from 1987-1989. In 1996 the company expanded its manufacturing facilities in Charlottesville, Virginia and currently employs~45 persons.

Ortho Pharmaceuticals From 1991-1992 Ortho conducted Contract research within the Center for Recombinant Gamete Contraceptive Vaccinogens. This resulted in direct funding to the Herr lab, costs for animal and primate trials as well as funds for human trials, and royalties to the University.

ContraVac In 1992 Dr. Herr founded ContraVac as a corporate shell to receive technology emanating from the Center for Recombinant Gamete Contraceptive Vaccinogens. ContraVac has licensed several of Dr. Herr's patents and is currently developing a male infertility diagnostic, Sperm Check™ in co-operation with a strategic manufacturing partner, Princeton Bio Medi Tech Corporation. Dr. Herr is working to attract this company to the University North Fork Industrial Park.

Schering, AG In 1998 this company finalized contracts with the University of Virginia and the University of Virginia Patents Foundation to license technology developed in Dr. Herr's and Dr.

Flickinger's laboratories. The contracts have resulted in funding for development of young faculty as well as future patent royalties and provides a strategic partnership for translational research.

Graduate Student Thesis Committees Served

Pat E. Bender (L. Rebhun, Major Advisor) Biology (Graduated, 1981)
Fritz Reinhart (R. Bloodgood, Major Advisor) Anatomy
Lynn Samuels (C. Flickinger, Major Advisor) Anatomy (Graduated, 1984)
Wendy Wilson (G. Oliphant, Major Advisor) Anatomy (Graduated, 1986)
David Wolpart (D. Kirwan, Major Advisor) Chem. Engineering
Greg Dandulakis (co-advise with D. Kirwan) Chem. Engineering (Graduated, 1997)
Tina Garza (K. Tung) Pathology (Graduated, 1998)
Bernard Dukes Microbiology (Graduated, 2000)
Tom Gervais (Chemical Engineering/Biotechnology) (Defended July, 2002)
Heping Gheng (Physiology and Molecular Biophysics)
Yan Ge (Rheumatology- Shu Man Fu)

Graduate Student Rotations in Lab

Samuel Waters - CMB - 1994
Elizabeth Norton - Biotechnology - 1994
Connie Grafer - Biotechnology - 1994
Amy Butscher - Biotechnology - 1995
Todd Armstrong - Cell Biology - 1995
Rob Baskin - Molecular Medicine - 1996
Theresa Robinson Thompkins – 2000
Jamie Rolle -2004
Isabel Gonzales-2004

Undergraduate Biology Students Supervised for 495 Projects

1982	Sun Woo Lee
1982	Dana Buchanan
1982	Thomas Gallien
1984	Tracie Rankin
1984	Mike Slattery
1988	Kim Snyder 1994-95 Liz Dedman
2001	Maria Chamura
2002	Alexandra Garcia
2003-05	Margaret Samra (won second place in the undergraduate senior thesis competition for her work in the laboratory)

Hughes Scholar Undergraduate Research Program

Brian Kornreich 1990-1992 A Howard Hughes scholar from Biology, Brian worked on the expression of the SP-10 sperm vaccine immunogen. His work won the 1991 Sigma XI Undergraduate Research Award at UVA for his work in the lab.

Medical Student Summer Training (MSTP)

Beverly Boykin	1984	worked on hybridoma production
Tim McGarry	1984	poster on work presented, October 23, 1984, MSTP Poster Session
Andrew Sager	1985	poster on work presented, October 22, 1985, MSTP Poster Session
Tim Polk	1987	Tim worked on immunocytochemistry of the human prostate
Carl Palmer	1989	work on gene cloning from human testis
Ray Dumaran	1989	gene cloning human testis
Samuel M. Brooke	1991	Inhibition of hemi-zona assay by baboon sera to recombinant vaccine.
Renuka Bhattacharya	1994	Monkey oviductal immune response

Medical Minority Academic Advancement Program

1990	Five minority summer students received laboratory experience.
1991	Tounia Louder, a high honor student received training during the summer of 1991.
1996	Joe Boyd (Native American); Jacqueline Barrientos (Hispanic) - spent their summers in the Herr lab.
1997	Glen Davis II (African American) spent the summer in the Herr Lab. Four minority summer students all African Americans, received laboratory experience in the Herr Lab: Fred Cesar, Nieka Harris, Erica Kinney, and Tericka Smith.
1999	Two minority summer students both African Americans, received laboratory experience in the Herr Lab: Gregory Dairyko and Erica Kasper.
2000	Five minority summer students: four African Americans, one Caucasian American, received laboratory experience in the Herr Lab: Janice Hobbs, LaRhonda Jackson, Kwame Osei-Sarfo, Rachel Simpson, and Melissa Stokes.
2001	Six minority summer students: four African Americans, one Caucasian American and one Native American, received laboratory experience in the Herr Lab: Tanisesha Buffin, Ugochi Ekeocha, Eline Haenebalcke, Denise Mayo, Natalie Melrose and Bernadette Ramone.
2002	Five minority summer students: three African Americans, one Caucasian American and one Native American, received laboratory experience in the Herr Lab: Craig Foster, Pierre Gordon, Michelle Morse, Sanet Torres and Nia Washington Plaskett.
2003	Four minority summer students, all four African American, received laboratory experience in the Herr Lab: Kara Malone, Jaime Rolle, Melecia Simpson, Kimberly Wiggins

Activities to Develop Pre-and Postdoctoral Training Resources

Dr. Herr has organized, written, and serves (or served) as program director for several pre- and postdoctoral training programs.

Graduate Training: The Biotechnology Training Grant, a multidisciplinary training program between five basic science departments in the Medical School, Chemistry and the Dept. of Chemical Engineering, was organized and funded by NIH in 1990. Four positions in the first year expanding to six predoctoral positions in the second year were awarded.

Postdoctoral Training: A postdoctoral training program was funded in 1990 within the Center for Recombinant Gamete Contraceptive Vaccinogens which included six postdoctoral positions [five years of funding]. The program will be refunded until 2002.

International Postdoctoral Training: A NIH Fogarty Fellowship Program which funds 4 fellows from India was funded for 5 years beginning in 1995. In 1997 NIH asked if the program would like 2 additional slots and awarded these positions as part of a new initiative in male contraception. In October 2000, the program was competitively renewed for five years with 6 approved positions.

Minority Training: A summer research internship program in reproductive biology for 6 minority undergraduates was funded for 3 years beginning in 1996 by the Mellon Foundation. The program was refunded in 1999 for an additional 3 years.

Activities to Develop New Construction Funds

In 1999 Dr. Herr worked on Capital Hill to improve funding for new construction in the National Center for Research Resources at the NIH. On March 1, 2000 he developed a \$2 M grant to NCRR to aid in the construction of the Medical Research-6 Building at the University of Virginia.

11/09/2005